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ARTICLE I. *Report of Cases treated in the Wills Hospital for the Blind and Lame during the months of October, November and December*, 1838, *with Observations*. By ISAAC HAYS, M. D., one of the Surgeons to the Institution.

OPHTHHALMIC surgery, it must be conceded, has not been sufficiently cultivated in this country. There are, unquestionably, a limited number of practitioners among us who are well versed in the subject; but the great mass of the profession are entirely unacquainted with its comprehensiveness—the variety of affections it embraces, and consequently they can have but a faint conception of its importance; it is to them, in short, a complete terra incognita. We have been told by a professor of surgery in a school of high standing, that he found three lectures ample for teaching every thing of consequence relative to the diseases of the eyes, and in none of our schools, so far as we can learn, are these affections considered of sufficient moment to require half a dozen lectures to be devoted to them. There is not, moreover, with one solitary exception, we believe, a private course delivered in this country, on the subject of these diseases.

Very different is the estimation in which Ophthalmic surgery is held in Europe. In the principal German and Italian universities, in the university of Glasgow and in the Birmingham Royal School of Medicine and Surgery, the teaching of this branch is made the province of a distinct professorship; and numerous independent courses are delivered at the various hospitals, infirmaries and dispensaries established for the relief of those afflicted with diseases of the eyes.

As to the extent of the subject, some idea may be formed from the fact,

that Professor Beer, of Vienna, occupied in his course of instruction ten months, giving five or six lectures weekly, and this on the practical part of the subject alone, Prochaska being professor of general Ophthalmology in the same school.

With the hope of drawing attention to this neglected department of our science we propose to report some of the more interesting cases which offer in the Wills Hospital. This hospital is restricted to the reception of patients affected with diseases of the eyes or lameness, but the former class compose by far the greater number.*

It is unquestionably in such institutions that these diseases can be studied with most advantage, and we hope in these reports, especially should our colleagues unite in the plan, that most of the forms of disease to which the eye is subject will eventually be illustrated. These are of course numerous, since this organ embraces in its structure nearly all the tissues found in the other parts of the frame, and at least two which exist no where else.

During the last quarter of the year 1838, the cases treated in the hospital were of a less varied character than usual, but some of them were exceedingly interesting. These last we will now briefly notice, without giving a diary of each case which might be considered tedious.

Amaurosis.—This form of blindness may result from any organic disease of the retina, optic nerve, anterior tuberculi quadrigemini, the corpus geniculabum externum or tuber cenerium; from tumours in their neighbourhood pressing upon them and thus preventing the performance of their functions; from various disorders of other organs causing congestion in these parts or affecting them sympathetically, as the suppression of habitual discharges, worms in the intestines, derangement of the stomach, &c., &c; and finally from certain lesions of some of the branches of the fifth, third, and sixth pairs of nerves, of the great sympathetic and probably also of the spinal marrow. It is manifest then that the forms of this disease are exceedingly numerous and the importance of ascertaining the particular one in every case will be readily estimated, since some of them are entirely incurable, and it is cruel to subject patients so afflicted to severe remedies, which must prove unavailing. Whilst those which are remediable, are of so different a character as to require various and even opposite modes of treatment, and the appropriate one can solely be determined by a knowledge of the pathological state upon which the disease depends. Unfortunately in the present state of the science this is not always possible, but very generally, a careful examination into the history of the case and of the existing symptoms will furnish us with the desired information.

One of the most interesting cases of amaurosis treated in the Hospital was the following, the result apparently of *nervous asthenia* of the retina.

* For an interesting account of this hospital by Dr. Littell see this Journal for November 1835, Vol. XVII, p. 89.

Case. Amaurosis—Employment of Strychnine—Cure. Harriet Taylor, aged 12, was admitted November 10th, with amaurosis of right eye; vision in left eye good. Her mother stated that she had first noticed her daughter's defect of sight about three years ago, since which period it had been growing gradually worse. For four months the right eye, to use the patient's own expression, had been "quite dark." She cannot distinguish a candle with it, though she has a faint perception of the light. The patient has light hair; complexion fair; irides gray, contracting on exposure to light; pupil of right eye rather more dilated than that of left; is sometimes troubled with headache. We neglected to examine the eye catoptrically.

Ordered a dose of sulphate of magnesia at bed time, and the next morning a few drops of the following to be applied to her right eye. R. strychnin. gr. ij; acid. acet. ʒj. aq. puræ ℥j. M.

November 11th. Noon. Medicine has purged her actively. The nurse had applied the solution to the eye early in the morning, and the patient finding her vision much improved, afterwards, in the absence of the nurse had twice used it herself. Says she can now see pretty well with her right eye. Upon trial found she could read with that eye, the other being carefully closed with my fingers, a newspaper which happened to be at hand, Says there is some cloudiness of right eye. Continue collyrium.

12th. Sight improved. She read with either eye almost equally well, the other being closed, a proof sheet of this Journal, which we had taken for the purpose of trial. Cloud before right eye diminished but not entirely gone. Continue collyrium.

13th. Cloudiness of right eye entirely gone; sees perfectly well with it; is not sensible of any difference in the power of vision of her two eyes. She was discharged November 17th, and went to her mother who resides a few miles in the country.

Remarks. The rapidity of the cure in this case led us at first to suspect deception; on inquiry we could not discover any ground for such suspicion. The friend who had recommended the patient to our care informed us that her mother was a respectable, industrious widow, who supported by her labour several children of which the patient was the oldest; that the daughter was intelligent, active and obliging and her aid was of so much importance to her mother, that he had interested himself to have her relieved from her infirmity, which much lessened her usefulness. As to the excellence of her sight, when she was discharged the hospital, we verified this in a way that admitted of no deception.

P. S. We have this day, (June 11th, 1839,) had the gratification to learn from the friend who sent this patient to us, that the cure has been permanent. He informs us, that he sees Harriet frequently and that ten days since he inquired particularly of her respecting her sight, and was assured by her that it was perfect.

A very interesting case of congestive amaurosis was treated in the hospital,

but as the result is not yet determined, we will merely state at present in relation to it, that it occurred in a gentleman fifty-eight years of age, and resulted from the suppression of an habitual hemorrhoidal discharge. The patient was improving under the use of active cathartics and the repeated application of leeches to the anus; when he was attacked with rheumatism, to which he was subject, of so severe a character as to require a treatment exclusively directed to its removal. His health was so much impaired by this complaint that it was thought advisable he should return home to the country to recruit.

Case. Amaurosis—Various treatment—Vision not improved.—Louisa Dewey, ætat. 24; seamstress. This patient had been admitted into the house on the 29th of August. She attributed her affection to sewing late at night, and at times all night, by gas-light, during the preceding winter and spring. She had been repeatedly blistered, and had strychnine applied to the raw surface thereby produced, and been subject to other treatment without benefit.

When she came under our care, October 1st, her health was excellent; her only complaint was of imperfect vision. She was a brunette, with dark hair; irides brown, inactive; pupils dilated, clear black; three distinct images of a flame to be seen in them; sclerotica free from injected vessels. It was difficult to determine what was the exact degree of vision enjoyed by this patient; she seemed to me disposed to exaggerate her blindness, and rarely admitted that any improvement resulted from the remedies employed, even when those about her thought that she exhibited marked evidences of improved vision. We can hardly suspect her, however, of intentional deception, as she submitted cheerfully to the severest remedies, and repeatedly requested that she might be discharged, so soon as we gave up all hope of benefitting her sight. We had no reason, however, to believe that the improvement, if any, was permanent.

The means employed in this case, were various. Our first impression was, that the loss of sight was the result of an asthenic condition of the retina; but the failure of the appropriate remedies, under the direction of our predecessor, led to the suspicion that there might exist some congestion; topical depletion was therefore employed—as cups to the head, and leeches to the temples. With the same view, numerous derivatives were ordered: among which may be mentioned a seton in the back of the neck, mustard pedeluvia, purgatives, &c. The few occasions on which she admitted herself to be benefitted by any remedy, was after the first application of leeches to the temples; their subsequent employment however was of no service.

Failing in these remedies, we determined to treat it as a case of asthenia of the retina. With this view cauterization of the cornea, with nit. argent., as recommended by Sanson, was tried; then solution of strychnine dropped in the eye, and finally an alterative treatment, all with the same result. When we

turned her over to the care of our successor, her sight had not improved, and we find by the register, that she was discharged January 30th, 1839, as incurable.

Remarks. The want of success in the treatment of this case is not readily to be explained. The good health of the patient, and the recent occurrence of the disease would seem to have promised a more favourable result. Our first impressions relative to the nature of the case, viz, that it was one of asthenia of the retina, were probably correct: nevertheless an energetic treatment directed by this view was wholly unavailing.

When we took charge of the hospital on the 1st of May, 1839, we found in it a case remarkably similar to the preceding in its main features, but which terminated more favourably. The patient Susan Smith, was a seamstress, ætat. 22, fair complexion, light hair and light blue irides. She had been admitted April 3d, by our colleague Dr. Fox. She was treated by purgatives, shower bath and moxas to the temples, and was discharged cured May 29th.* She then read for us promptly, several verses in a diamond print Bible.

The following case, though it occurred in private practice, it may be allowable to introduce here, as it furnishes a marked example of congestive amaurosis and of the benefits of a proper statement.

Case. Congestive Amaurosis—Depletion—Cure. Margaret M'Quid ætat. 19, a robust Irish girl, a servant in a family in West Philadelphia, applied to me February 18th, 1839. She stated that she had lost the sight of her left eye suddenly, two days previously whilst washing clothes; she had at that time intense headache which still continues. Her bowels are open; menstruates regularly; eyes natural in appearance—three images of a flame visible in the pupil. Irides light blue, moderately active; pupil mean size. Vision with right eye perfect, with left she cannot distinguish any object, not even a lighted candle, though she has a faint perception of the light it emits. She is of full habit; pulse active. I ordered her to he bled to the extent of sixteen or eighteen ounces and to take the following pills. R. calomel pp. gr. viij; pulv. rhei gr. x; G. aloes gr. ij. M. Ft. pilul. No. iv.

20*th.* The patient had neglected to attend to these prescriptions until last evening. The headache had been promptly relieved by the bleeding. Pills have not operated; there is a slight improvement in vision. Ordered magnes. sulph. ℥j.

22*d.* Medicine has operated freely. Can see now pretty well the smallest objects, though they all appear as through a thin mist. Ordered a blister behind right ear, and senna and manna tea.

27*th.* Vision quite restored. Intends returning to her place.

* We abstain from giving the details of this case, which we hope will be furnished hereafter by Dr. Fox, under whose care the patient was admitted.

I met this patient in the street ten or twelve days subsequently, and learned from her that her sight was as perfect as ever.

CATARACT. Of this disease, we shall relate but two cases; one of capsulo-lenticular, the other of capsular (congenital) cataract.

Case. Capsulo-lenticular Cataract—Adhesion of Iris to Capsule at several points.—Susan Clay. This woman, when I took charge of the house, was recovering from an operation for cataract, which had been performed on both eyes, by my predecessor. She was 63 years of age, short, very fat, flesh soft and flabby. She complained much of weakness; pulse feeble; had no appetite, and labored under the usual symptoms of derangement of the digestive organs. She was ordered the following pills. R. pulv. rhei ʒj; pulv. zingib. ʒss; sapo. venet. ϑj; M. Ft. pilul. No. xxiv. Two to be taken half an hour before each meal. Her diet was regulated; a small portion of meat was occasionally allowed at dinner, and subsequently she took cold chamomile tea. Under this treatment, her digestive organs were restored to a more healthy condition, and she gained strength; but no improvement took place in her sight. She was able merely to distinguish light; and it was agreed in consultation, to repeat the operation.

A mild purgative being premised, and the extract of belladonna applied around the eyes the night before, I operated October 18th, assisted by my colleagues. The pupils admitted of only moderate dilatation, in consequence of adhesions between the margin of the iris, and capsule of the lens.

The patient being laid on a table, her head raised on a couple of pillows, (the position in which we always operate for cataract,) a straight, pointed, double-edged needle was introduced about a line and a half behind the cornea, with one flat surface towards the lens, and pushed forward between the lens and iris, until its point appeared in the pupil. The adhesions were carefully separated with the edge and point of the instrument, which was effected without wounding the iris; the needle was next carried entirely across the pupil, and one cutting edge being then turned towards the lens, it was partially withdrawn, dividing the lens exactly in half. The two fragments were then broken up, and some of them pushed into the anterior chamber. The patient was put to bed in a dark room, the strictest abstinence enjoined; barley water for sole nourishment; and belladonna to be applied every night around the eye. Slight inflammation followed the operation, but this yielded to a small bleeding, and a few applications of cups to the head, and back of the neck.

She was soon able to take mild nourishment, which was allowed as early as circumstances would permit, on account of her previous feebleness and the derangement of her digestive organs. Absorption went on rapidly, and on the 27th November, she was discharged, being desirous to return to her family, who resided some miles in the country. At this time, she was able to read with one eye, and to distinguish persons with the other. There is little doubt but that the whole cataract was eventually absorbed.

Case. Capsular Cataract.—Caroline B——, ætat. 23, was admitted October 3d, with cataract in the left eye. She stated that she had not enjoyed, since her earliest recollection, sight with that eye, and within a short period, she found her other eye was becoming weak from excessive use, in teaching school during the day and sewing at night, and she was afraid of losing the sight of this one also. There was no sign of cataract in this eye; three images of a flame were seen in it; there existed merely an irritability of the retina, from excessive employment of the organ. Her situation, which was a peculiar one, rendered her unwilling to give up her occupations and become the inmate of an hospital for the relief of her right eye; but she was satisfied to do so for the purpose of an operation on her left one. Though reluctant to operate upon one eye, whilst vision is pretty good in the other, I consented to waive this on the present occasion, as the treatment to which she would then be subject, appeared to afford the only prospect of curing her right eye, or probably, indeed, preventing her losing the sight of it entirely.

The cataract in the left eye was pure white, very dense, with a minute dark spot near the centre, apparently a small opening. There was no adhesion of iris to capsule, the pupil freely dilating under the action of belladonna. The patient could distinguish with her left eye, the position of a light, and tell when an opaque body was interposed.

The history of the case, as well as the appearance of the opacity, led me to believe that the cataract was membranous, probably formed by the union of the anterior and posterior surface of the capsule, the lens having been absorbed, and that it would require some management to cut it up with a needle.

The patient was put upon a light diet, her bowels regulated.

October 18th. We this day operated in the presence of our colleagues. The pupil was well dilated by the extract of belladonna, which had been applied around the eye last night, and again early this morning. A straight, pointed, double-edged cutting needle was introduced through the sclerotica, at the usual place, with one flat surface towards the iris, and passed across the pupil, until its edge became concealed behind the nasal margin of the iris. The edge was next turned, so as to correspond as nearly as possible to the diameter of the cataract, against which it was firmly pressed; then with a short, quick stroke, the cataract was divided entirely, and exactly in half. The lower half was next cut up, and the fragments placed in the anterior chamber, and then the upper half divided several times, but it could not be cut up as well as the other half. Belladonna was ordered to be applied around her eye at bed time.

The night after the operation, this patient became maniacal, and upon inquiry, we learned that she had had several such attacks before, and had, at one time, been for several months confined in a lunatic asylum. The present attack yielded to venesection, cups to the head, and tart. antim. in small doses

combined with laudanum, as did several others subsequently; and these means also relieved some slight inflammation of the eye which followed the operation.

Absorption went on very rapidly, and all the fragments in the anterior chamber were removed by the 6th of November; and her mind was then perfectly clear.

At this period, a sudden attack of mania came on at midnight; she left her bed, got into the bath tub, turned the valve which let the water flow to the shower bath, and the steward, who was awakened by the noise of the flowing water, found her complety drenched. The consequence of such an exploit, on a cold November night, as might be supposed, was a severe inflammation of her eye. This yielded, however, to an active antiphlogistic treatment. It is worthy of mention that there was a large fragment of capsule, the morning after this event, in the anterior chamber, which had passed into it from the posterior, doubtless in consequence of some sudden jar.

Notwithstanding these untoward occurrences, absorption went on well, and on the 20th of December, no portion of the cataract remained except a small fragment behind the upper and outer edge of the iris. The pupil when viewed in front was entirely clear, no injection of the conjunctiva. The patient can count the number of fingers held up, and distinguish different persons with her left eye.

The right eye has improved; indeed her sight with it seems now perfect. Being troublesome from her repeated attacks of mania, she was discharged December 26th.

She has since, we learn, had a severe attack of mania and is now in the Insane department of the Pennsylvania Hospital.

Iritis. No acute case of this disease presented at the hospital. The following example of the sequelæ of the complaint is interesting from the complete cure effected.

Case. Lymph in Pupil the sequela of Iritis.—David Jackson, ætat. 24, had been admitted into the house, August 29th 1838, for iritis, by my predecessor Dr. Littell. Under the judicious treatment to which he had been subjected his sight had much improved, and when he came under my care his vision with one eye was tolerably good, with the other it was very imperfect. The pupils were small, irregular and considerable lymph still in them. No inflammation. The attack had come on in May last, first in one eye and a few days subsequently in the other.

October 2d. Extract. belladonnæ cum ung. hydrarg. part. ægales. was directed to be applied around his eye every night.

19th. Ordered the following. R. calomel pp. gr x.; tart. antim. gr. j; nit. potass. ʒj; M. Div. in chart. No. xii. Four to be given daily; Continue local application.

On the 29th of October, his mouth became sore, when the powders were

discontinued and he was ordered the compound syrup of sarsaparilla. Under this treatment the pupils dilated, the lymph was absorbed and vision improved so much that he was able to pass a portion of each day in reading the newspapers to a Mr. V—, a patient in the house. When my term of service expired he could read, with one eye, the smallest lettering on a map of the United States in the office, and with the other eye, could read very small print. He was discharged, cured, February 20th, 1839.

Purulent Conjunctivitis. But a single acute case of this disease was admitted into the Hospital during our tour of duty.

Case. Catarrhal Conjunctivitis—Chemosis—Ulceration of Cornea.—John Moffit, ætat. 30, a short robust Irishman, a labourer on the Schuylkill coal wharves, admitted October 13th, with purulent conjunctivitis of right eye. He had been attacked some days previous to admission, in consequence of taking cold. His right eye was extremely inflamed; chemosed and discharged pus copiously. The conjunctiva was so distended that it projected over the margin of the cornea covering nearly half the circumference of this coat; pulse active; considerable pain in his head. Left eye not inflamed but light slightly offensive to it.

This patient was several times bled and cupped, his bowels were kept open and his eye was washed with a collyrium of corrosive sublimate, gr. ij. in four ounces of water. The chemosis not yielding to this treatment, the conjunctiva was divided in a radiated manner according to the plan recommended by Mr. Tyrrell, (see this Journal for November 1838, p. 242.) The swelling of the conjunctiva abated and a deep ulcer was then observed near the margin of the cornea on that part previously covered by the swollen conjunctiva. This ulcer was lightly touched several times with solid nitrate of silver. Dover's powders and mustard pediluvia were ordered at bed time and finally a blister behind the neck. Under this treatment the inflammation was subdued and the ulcer healed. There was however a small point of adhesion between the iris and cornea causing a slight irregularity of the pupil. The patient was discharged with his sight entirely restored, December 22d.

Remarks. In the preceding case, depletion was more frequently employed, than is usually necessary. It seemed to us to be demanded by the severe and constant pain in the head. The division of the conjunctiva by the method recommended by Mr. Tyrrel, did not seem to be productive of the benefit we expected from the representations of that surgeon; but it would be unfair to condemn it from the result of a single trial.

In most cases of catarrhal conjunctivitis, sanguineous depletion can be dispensed with; and a cure be effected more promptly by the local application of nitrate of silver. Our prejudices were originally strongly against this method of treatment; but ample experience has demonstrated to us its superiority—a cure being produced in infinitely less time, and with less suffering to the patient.

The following cases which occurred in private practice, we may adduce as illustrative of this.

Mrs. M——, aged about forty-five years, thin, health pretty good, though formerly a great sufferer from dyspepsia, consulted me, April 19th, 1839.

She had inflammation of conjunctiva, which had come on two days previously, in consequence, she thinks, of exposure to cold. The conjunctiva of both eyes is injected; considerable effusion of serous fluid beneath it, constituting chemosis, but of a paler character than usual. Scarcely any intolerance of light; slight feeling of sand in the eyes; some lachrymation; pulse natural; no headache. She had taken, the night before, a purgative, which had operated well.

I ordered nit. argent. gr. iss; aq. puræ ℥j. M. Of this, I placed a few drops on the eye, this and the six succeeding mornings. She was directed to wash her eyes occasionally during the day, with the following collyrium.—℞. corros. sub. gr. j; aq. puræ ℥iv. M. Mild diet was directed, and avoidance of exposure; room to be moderately lighted; mustard pedulivium every night; one or two mild laxatives were given. Under this simple treatment, in six days the redness and chemosis entirely disappeared, and the patient expressed her surprise at the rapidity of the relief.

Mr. H. E—— applied to me, Saturday, June 1st, with inflammation of right eye. There was considerable serous chemosis, and also swelling of the lids; no intolerance of light; pulse natural; no constitutional derangement Patient attributes his attack to taking cold the preceding Wednesday night, when he had been obliged to rise from bed and go a considerable distance. He had taken, the night previously to our seeing him, a dose of salts, which had operated. We applied a few drops of a solution of nit. argent. to his eye, of the strength of one grain and a half to the ounce of water. It produced slight smarting, which soon went off. This was repeated June 2d and 3d. June 4th, the patient called again, and said he had done so in compliance with our request, but that his eye was well, and no further application was necessary.

Remarks. The want of success sometimes attendant upon the use of the solution of nitrate of silver, is to be in a great degree attributed, we believe, to the careless manner in which this preparation is made. Both the nitrate of silver and the water should be chemically pure, and the solution perfectly pellucid. It must be observed, moreover, that it is best when freshly prepared. In a few days, or if exposed to the light, in a few hours, the solulution assumes a reddish tint, and small dark particles may be perceived floating in it. In this state, its use is often followed by injury, instead of benefit.

Chronic Purulent Conjunctivitis with Granular Lids.—A greater number of patients are admitted into the hospital for this, than for any other diseases of the eyes. This arises, doubtless, from the fact of the disease

being generally but little understood by physicians; consequently, patients, finding no benefit from the usual treatment, wander from place to place in hopes of obtaining relief. As an evidence of how little the complaint is understood, it may be stated, that a gentleman of wealth, from Mississippi, who had long been suffering from it, and had consulted many eminent physicians without relief, asssured us, that although one or two of those who had given him advice had suggested that the obstinacy of his disease might be owing to granulations; that the only means by which the existence of these granulations could be detected (the eversion of the lids) had never been resorted to until by ourself, and that no direct application had ever been made to them. This gentleman, who came here quite blind, recovered his sight after the removal of the granulations.

Most of the cases in the house had been there for a considerable period, and as they do not illustrate the principal points to which we are desirous of calling attention, we must postpone the remarks we wish to make, for a better opportunity.

The following case will show the ordinary features of the complaint and general mode of treatment; and is interesting from the great improvement which took place. Like many of the cases of this complaint, it was protracted in its course, and the result should serve to stimulate the practitioner to perseverance under the most discouraging circumstances.

Case. Chronic Purulent Conjunctivitis—Opacity of the Cornea—Granular Lids.—Terence Hagan, ætat. 30, admitted September 30th, 1837. —This man stated that he had been attacked in November, 1836, with inflammation of both eyes, accompanied with discharge of matter; that after having been some time treated by a physician in New Jersey, finding his disease not abating, he went, the following March, to the city of New York, where he was treated by scarifying the lower lids, repeated cupping from the head, and took pills which made his mouth sore. Being dissatisfied with the result of this treatment, he came on to Philadelphia.

When he applied at the hospital, the propriety of granting him a certificate that he was not incurable, which is necessary for admission, seemed to me doubtful. At this time, his cornea was so completely opake with effused lymph, that he could barely distinguish day from night; his ocular conjunctiva was a mass of red vessels, through which the natural colour of the sclerotica could not be seen; the palpebral conjunctiva of the upper lids were covered with large, firm, wart-like looking granulations; and that of the lower lids showed numerous cicatrices, the consequences of deep scarifications. There was some intolerance to light, with cephalalgia, and sense of weight in the head; pulse moderately active.

The day he was admitted, cups were applied to his head, and ten or twelve ounces of blood taken, and an active purgative was prescribed. These remedies relieved his headache, and abated the intolerance of light. He was then subjected to the following treatment, which was persevered in

with little variation during the three months he continued under our care. Cups were applied to his head every few days, the period determined by the recurrence of the headache, which was frequent, and by the increase in the injection of the conjunctival vessels; purgatives were given as revulsives, and to correct the torpid state of the bowels; a mild, light diet principally vegetable, was directed; and the solid sulphate of copper applied every two or three days, to conjunctiva of upper lids, and occasionally to that of the lower. This local application was made with difficulty in this case, inasmuch as it was impossible to completely evert the upper eye lids. The only way it could be effected, was by drawing the lid from the ball, inserting a thin piece of the article, fixed in a quill, between the lid and ball, and then rubbing it against the former. Under this treatment, the granulations diminished, as also the injection of the ocular conjunctiva, and absorption of the lymph in the cornea commenced.

The treatment was continued by my colleagues, modified occasionally to suit varying circumstances or in conformity to peculiar views. The only change however we need notice is the administration of iodine, which was given partly to promote absorption and partly to relieve scrofulous swellings of the glands of his neck, which occurred and proved troublesome; suppurating and causing much discomfort to the patient.

On the 1st of October, 1838, Hagan again came under our care. His eyes during the interval had much improved. Distinct vessels could now be seen on the ocular conjunctiva, between which the natural colour of the sclerotica was visible. The granulations had nearly disappeared, and a large portion of the lymph on the cornea had been removed.

The upper lids could now be everted and the sulphate of copper was occasionally applied to them. Hagan still suffered at times from headache from which he was always relieved by cups to the head, and this remedy also served to diminish the injection of the conjunctival vessels. The shower bath was also directed as long as the weather permitted, and as his bowels were still inactive, the pil. cathart. comp. two or three at bed time. The glands of his neck, particularly of right side, were swollen, indurated and occasionally discharged pus. To correct this condition, which we suspected might have some dependence on a syphilitic taint, we ordered on the 10th of October, the syrup of sarsaparilla ℥j. three times a day with one tenth of a grain of corrosive sublimate. The latter was given as follows: ℞. corros. sub. g. j; spt. vin. ℥j. solv. et add. aq. puræ ℥v. M. liq. A tablespoonful with the syr. sars. three times a day.

This was continued for a month, at the end of which the swelling of the glands had diminished and also the injection of the eyes. A seton was then inserted in his neck, and a few drops of vin. opii placed daily on his eye, and mustard pedeluvia were ordered twice a week at bed time. Cups were still occasionally required, and also the sulphate of copper.

Early in December (5th) Hagan complained much of nausea, loss of appe-

tite and general feelings of malaise. His diet was then changed. Soups which had previously constituted the principal part of his food were forbidden, and a little meat allowed daily with soft boiled eggs, rice, and milk. The following pills were also prescribed. ℞. pulv. rhei ʒj. bicarb. sodæ ϑij. extr. gent. ʒss. M. Ft. pilul. xl, three to be taken morning and evening. These pills were continued for several days when he was given the sulphate of quinine in small doses. Under this treatment his stomach recovered its tone. The vinum opii was continued.

By the 1st January 1839, when my term of service expired, Hagan was able to distinguish the different persons in the house. The granulations had entirely disappeared, there were but few red vessels in the conjunctiva, and the colour of the iris could be distinguished around the circumference of the cornea.

During the month of May, 1839, we had charge of the house in consequence of the indisposition of our colleague Dr. Fox, when we found Hagan still there, and with improved vision. My immediate successor Dr. Isaac Parish had removed portions of the conjunctiva around the cornea which seemed to have promoted absorption of the lymph on the cornea.

Hagan could now see sufficiently well to make himself useful by working in the garden. The seton was still in his neck and discharging freely. A drop or two of the undiluted liquor plumb. subacet. was directed to be placed on his eyes every two days and iodine, to be given internally. In a couple of weeks his mouth became sore, which was, he says, the case when he took this last previously, and it was discontinued and an astringent wash directed for his mouth under which the ulceration began to heal.

The most rapid improvement took place during this month, principally attributable, I think, to the use of the liq. plumb. subacet. and on the first of June, when Dr. Fox resumed the service of the hospital, Hagan was able to read large letters—as the heading of a newspaper.

Remarks. The liquor plumbi subacetatis of the old London Pharmacopœia is a most efficacious remedy for the removal of opacities of the cornea, whilst the pure article at present prepared, in our trials, has proved valueless and sometimes we have thought even injurious.

T. R. Colledge Esq., President of the Medical Missionary society in China, well known for his efforts to extend to the Chinese the benefits of medical science, and whose experience in diseases of the eyes has been very extensive, informed us last winter, during a visit with which he favoured us at the Hospital, that such also was the result of his observation.

Case. Acute Inflammation of the Conjunctiva, supervening upon chronic—Thickening of the Conjunctiva of lower lids—Growth of Hairs from inner edge of tarsus. Mary Lenox, ætat. 35, admitted October 3d. The conjunctiva of the globe much injected, and that lining the lids red and thickened. A purulent secretion, in small quantity, flowed from the eyes, and a row of hairs grew from the inner edge of the lower tarsi and were applied to the eye, adding much to the irritation. This woman was at service

as cook, and suffered from frequent attacks of inflammation of the eyes. The present acute attack of inflammation was attributable to cold taken a few days previously. Her general health was good. The irregular hairs were, at once, carefully removed with forceps. Twelve ounces of blood were drawn from the arm and a purgative ordered at bed time.

She subsequently underwent a pretty active antiphlogistic treatment, consisting in venesection, cupping, purging and tart. antim. in small doses; and at each visit her eyelids were carefully examined, and whenever irregular hairs were detected they were extracted. By these means the active inflammation was subdued.

The palpebral conjunctiva remained, however, thickened, and the secretion of the meibomian glands was deranged and in excess, and formed a crust at the root of the lashes of the lower lid. To relieve the former, the solid sulphate of copper was applied every other day to the part, and for the latter, the ung. hydrarg. rub. was ordered to be rubbed at night on the edge of the lids.

Under this treatment rapid improvement took place, and she was discharged, November 10th, as a patient, and hired as a cook in the house. She has since become principal nurse, and suffers no inconvenience from her eyes, except when irritation is caused by the growth of irregular hairs. On such occasions she has applied to me to remove them, and I have found nothing further required for her relief. The appearance of the eyes and lids are perfectly natural, except that the lashes are scanty.

Remarks. We have been induced to relate the preceding case in order to draw attention to the fact of inflammation being often maintained by the irritation caused by irregular hairs. These hairs are sometimes so fine, that they can only be seen in a good light and by the aid of a lens, and yet, they keep up excessive irritation, when not removed, to the great perplexity of the practitioner and distress of the patient; in one instance I knew an eye, destroyed by the irritation caused by a single hair. It occurred in a young gentleman who was convalescing, favourably, from an extremely severe, purulent conjunctivitis. He experienced the sensation of a hair, irritating one of his eyes, and desired his room-mate, a student of medicine, to remove it, as he had often seen me do. An examination was made for the purpose, but the source of irritation could not be discovered, and the patient was persuaded that the sensation was deceptive. On my visit, two days afterwards, I found the eye to my surprise greatly inflamed. By the aid of a lens, the hair, which had produced this, was readily seen, and was extracted with a pair of forceps. The sensation immediately ceased, but the eye never recovered from the consequences of the re-excitement of inflammation in it.

Case. Caustic Lime accidentally applied to Cornea—Partial adhesion of Conjunctiva of lower lid to that of the globe of the eye—Granular Lids, &c.—Bernard M'Manus, ætat. 23, admitted June 16th. This man

when he came under my care, October 1st, had dense central opacity of the cornea of the left eye, covering the entire pupil; the lower lid was adherent in part to the globe, the upper lid was highly injected and granulated; the conjunctiva covering sclerotica was moderately injected; there was profuse lachrymation and considerable photophobia; eye lashes encrusted with secretion from meibomian glands.

He stated that this train of evils had resulted from some lime having fallen in his eye. He had been subjected to an active antiphlogistic treatment and an attempt had been made to separate, with a knife, the lid from the globe; but reunion could not be prevented.

I scarified the conjunctiva of the upper lid; it bled freely; cups were repeatedly applied to the head and back of the neck; mustard pedeluvia, blisters and purgatives, as revulsives, were next resorted to; the eye was washed with weak chamomile tea with a little opium dissolved in it; and finally, three grains of blue mass every night for several weeks, until a slight coppery taste was perceptible, with syrup of sarsaparilla and ung. hydrarg. rub. to the roots of the eye lashes at bed time.

Under this treatment the irritation of the eye was overcome, and when my tour of duty expired, his eye was nearly well. The most troublesome symptom in this case, was the profuse lachrymation. This came on at irregular periods, and was always attended with severe pain in the temporal region and forehead. Cupping, with mustard pedeluvia and the chamomile tea seemed to afford most relief. Subsequently I inserted a seton in his neck, from which I have no doubt he has found benefit.

Remarks. Adhesion of the palpebral to the ocular conjunctiva frequently results from the introduction of caustic articles into the eye; and in some rare cases, from severe purulent conjunctivitis. One example only of this last has come under our observation. The subject of this was Henry Seabold, ætat. 26, a farmer, from Montgomery county, who applied to the Pennsylvania Eye Infirmary, February 15th, 1822. In this case, there was complete adhesion of the whole palpebral to the ocular conjunctiva, the bands extending entirely over the cornea. Vision was completely destroyed. This condition had followed, according to the representations of the patient, common catarrhal ophthalmia. We attempted to separate the lid from the ball, but found it impossible to prevent reunion, though various expedients were adopted for the purpose. In a case of partial adhesion of the upper lid to the cornea, in a young man, a plasterer, the consequence of the accidental application of caustic lime to the eye, which came under our care, in December, 1837; repeated attempts had been made by another surgeon, to separate the adhesion with the knife, with like want of success. We refused to repeat the attempt. The result in these three cases, would seem to show that little was to be expected from dissecting apart these adhesions; and we do not think we will again make the attempt. Mr. Middlemore, however, speaks of this operation in terms which lead us to infer, though

he does not positively say so, that he has performed it with success, where the adhesions were limited to a small surface.*

Wounds of the Eye. Several interesting cases of these were admitted, three of which seem to us to deserve to be recorded.

Case. Spines of a Chestnut—Bur penetrating Cornea.—James M'Ginnis, ætat. 12, was admitted November 10th, 1838. About six weeks previously, he was engaged with another boy in obtaining chestnuts, and whilst looking up, a bur fell from the tree and struck him in the eye; some inflammation followed, which not yielding entirely to domestic remedies, and the vision of the eye being impaired, his mother brought him to the hospital. Fourteen or fifteen spines of the chestnut bur were observable in the cornea, through which coat several of them had penetrated, and there was conjunctival redness, but much less than might be supposed from the presence of so many irritating bodies. With the point of a cataract needle, three of the spines were extracted; the eye then became so irritable, and filled with tears, and the blood vessels injected, that I thought it best to desist, for the present, from further efforts. He was ordered sal. Epsom ℥j; half to be taken at once, and the remainder the next morning. Two days afterwards, the redness and irritability had subsided, and I extracted two more spines; when I thought it prudent to again desist, and salts were prescribed as before. By pursuing this course, all the spines were ultimately extracted. One of these spines penetrated the cornea, and seemed to enter the iris; its extraction was difficult, and I only succeeded after several trials. When removed, a portion of the aqueous humor followed. The wound healed as kindly as any of the others, and it is difficult to discover the points where the spines had penetrated. He was discharged October 29th, 1838, quite well.

Remarks. The slight inflammation which resulted from this injury, is worthy of observation. We have usually, however, found wounds of the cornea to be attended with less inflammation than those of any other tissue of the eye, and they readily heal, often leaving little or no perceptible opacity. But although the cornea does not readily take on inflammatory action, when it has once done so, and its vessels have become dilated so as as to give passage to red blood, it is extremely difficult to overcome this condition.

A very common accident to iron turners, is the partial penetration of the cornea by small particles of iron. One patient applied for relief from an injury of this kind. Whilst engaged in turning a piece of iron, a minute fragment entered his cornea, and a portion of it projecting externally, had caused considerable irritation of the conjunctiva. It was readily removed with a cataract needle. A dose of salts was then directed, and cold applications to the eye. The case was not thought of sufficient importance to be

* Treatise on the Diseases of the Eye. London, 1835. Vol. II. p. 733.

admitted. I met the patient a few days subsequently, and learned he had promptly recovered, without further attention.

Case. Penetrating Wound of the Cornea—Prolapsus of the Iris.—Rosannah M'Nally, ætat. 8, was admitted November 8th, 1838, with prolapsus iridis of the right eye. About two weeks previously, whilst attempting to untie a knot in her shoe string by the aid of a fork, the instrument slipped, and a prong penetrated the cornea of her right eye, towards the lower and outer portion, at about a line and a half, or two lines from its junction with the sclerotica. Some inflammation followed, which resisted the homely applications made and continued when admitted in the hospital. The iris at this time protruded, forming a small dark tumour, and the iris was drawn towards the wound, rendering the pupil oval.

The inflammation was first subdued by venesection, saline purgatives and the usual antiphlogistic treatment; and the prolapsed iris was then touched with nit. argent. Under this treatment, the prolapsed portion of the iris disappeared, the wound healed, and the patient was discharged cured, on the 19th of December. There remained, however, permanent adhesion of the iris to the cornea, at the seat of the wound, and the pupil was irregular. Her sight was, however, excellent, and the motions of the iris, though limited, were not entirely destroyed.

Penetrating Wound of the Cornea by Fragment of a Percussion Cap.—Jeremiah Holmes, ætat. 32, mechanic, admitted December 15th, 1838. About six weeks previously, whilst standing near a person who was firing a fowling piece, a fragment of a percussion cap flew into his right eye, passed through the cornea near its centre and penetrated the lens, in which it probably lodged. When admitted, the wound in the cornea had healed, the lens had become opake, and there was considerable conjunctival inflammation, with lachrymation and photophobia. This last prevented his attending to his business, as his other eye suffered from sympathy.

By bleeding, cupping, purging and the usual antiphlogistic treatment, the inflammation and other unpleasant symptoms were relieved; and as the weather was unfavourable for an operation, the sight of the other eye was now perfect and the patient was anxious to return home, he was discharged December 26th, with the advice to return and have an operation performed should he suffer any further inconvenience from the presence of the foreign body in the eye.

In April last I heard from the physician, who had recommended this patient to me, that he was working at his business, and the only inconvenience he experienced, is from the loss of vision in the one eye.

Remarks. Wounds of the eye by small projectiles, as portions of percussion caps, small fragments of stone, &c., are, judging from our own experience, of frequent occurrence, and practitioners do not seem sufficiently impressed with the importance of *promptly removing* such bodies. Some years since, (1833,) a man applied to us with a slender fragment of stone, about

half an inch long in his eye, one end penetrating the lens and the other projecting beyond the cornea. He stated that the accident had happened several days previously whilst he was engaged in quarrying stone. A blast had prematurely exploded, projecting the fragment into his eye. He was immediately taken to a physician, who prescribed a dose of salts and the application of cold water to the eye, but declined extracting the foreign body, saying, "it must *fester* out." The patient's sufferings became so intolerable, that he resolved to come to the city for relief. The condition of the eye when we saw him, some days after the accident, may be readily imagined. It was inflamed in the highest degree. The foreign body was immediately seized with forceps and was readily removed, except a minute fragment which broke off in the lens, as it afterwards *appeared;* and by a most active antiphlogistic treatment, the eye was saved, with however a small permanent opacity of the cornea and complete opacity of the lens.

It may be stated as a general rule, that foreign bodies projected into the eye should be *immediately* removed. The only exceptions to this, which occur to us, are when the body is very small and of iron, and has entered the anterior chamber without wounding the iris, or when it is nearly or completely buried in the lens. In the former instance it may be removed by absorption, as has several times happened, and in the latter, it would appear from our experience, not to be productive of any general irritation, and though opacity of the lens follows, this is not to be prevented; the lens may be removed at a more favourable opportunity, if desirable.

The means by which foreign bodies are to be removed from the eye, must of course be in some degree regulated by the extent of the injury—the parts implicated—the situation of the body—and the period after the injury, that the patient is seen by the physician. If the foreign body has penetrated the cornea without the whole of it passing through this coat, it should be extracted with a cataract needle; or if a portion remains exterior to the cornea, it may be seized with the forceps. In the latter case, it may be occasionally necessary to first enlarge the wound, with the point of a cataract knife or needle.

If the foreign body has passed entirely into the anterior chamber, penetrating or not the iris, and the wound in the cornea has not united, this wound should be sufficiently enlarged with a cataract knife, or what we prefer, scissors with a probe point, and the body removed with a pair of delicate forceps. If the wound in the cornea has united, this coat may be opened, as in the operation for the extraction of cataract.

When the foreign body is completely imbedded in the eye, and cannot be seen, as is sometimes the case, its removal is difficult, and for the most part the accident is fatal to the organ. A case of this kind occurred several years since under our observation.

A man applied to us with a wound penetrating the cornea near its margin and implicating the iris. He stated that, in discharging a de-

fective fowling piece, a portion of the percussion cap had struck him in the eye; that immediately a quantity of fluid had run out, but whether, or not, the fragment had come out also, he could not say. At this time several hours had elapsed since the accident; the eye was intensely inflamed, excessively painful and vomiting had several times occurred. The eye was in no condition for such an examination, as could alone have enabled us to ascertain the presence of the foreign body, if indeed, such an examination would have under any circumstances been allowable. The patient was, therefore, subjected to a most active antiphlogistic treatment. By these means the symptoms abated in a few days, when the patient insisted upon going home, a few miles in the country. The pain and inflammation, however, though lessened, never entirely ceased, and frequently became severe, and a physician in his neighbourhood very properly inferred, that this was owing to the presence of a foreign body, and as the eye was then completely disorganised, he opened it by a section with a cataract knife. The aqueous humour, the lens which was opaque, and vitreous humour were all evacuated. With the last portion of the latter came the fragment of percussion cap. It probably had been in contact with the retina; whence the pain and irritation. The want of perfect certainty, that the fragment was still in the eye and some hopes, if there, it might be buried in the lens, where its presence would be productive of no farther mischief, than causing opacity of this part, deterred us from having recourse to this expedient in the first instance. Had it been then done, it would have saved the patient much pain and suffering, nevertheless we should never have recourse to so severe a measure, except under the most desperate circumstances.

We intended to relate several other cases in order to illustrate some of the other forms of disease of the eye, but are induced to postpone doing so for the present, by the fear of extending this paper beyond proper limits.

ARTICLE II. *Case of Vesico-vaginal Fistula, successfully treated by an Operation.* By GEO. HAYWARD, M. D., one of the surgeons to the Massachusetts General Hospital.

A PRETERNATURAL opening between the bladder and vagina, known by the name of vesico-vaginal fistula, is one of the most distressing accidents to which females are liable. Its most common cause is protracted labour, in which the head of the child has been allowed to press for a great length of time on the bladder, when that organ is distended with urine. Gangrenous inflammation is in this way produced; a slough forms, which separates in a few days after delivery, and through the opening thus made, the urine

is destined to pass, in most of these cases, during the residue of the patient's miserable existence.

Though this is, without doubt, by far the most common cause of vesico-vaginal fistula, it may occasionally be produced in other ways. It may be the result of a careless use of instruments in the delivery of the child; as when the bladder has been torn by a crotchet; or it may arise from an abscess, a stone in the bladder, or a disease of that organ.

Whatever may be the cause of the fistula, the consequence is in the majority of cases of the most afflictive kind, not only because all the urine passes through this new opening, but because the patient has no power of retaining it: she is rendered miserable by the excoriation and soreness that are thus produced, and loathsome to herself by the fetor of the urine. So wretched is the condition of patients of this class, that the language which Dieffenbach applies to them, can hardly be thought to be exaggerated. "Such unhappy beings," he says, "are forced to exclude themselves from society; the very atmosphere surrounding them is polluted by their presence, and even their children shun them; thus rendered miserable, both morally and physically, they yield themselves a prey to apathy; or a pious resignation alone saves them from self destruction."

The degree of suffering, however, is not the same in all cases; the difference arises from the part of the bladder in which the fistulous opening is situated. When it is high up, the patient has some power of retention, but even then the urine escapes through the opening, when any considerable quantity accumulates in the bladder. But if the fistula is lower down, at the place where it is usually found, about an inch to an inch and a half from the opening of the urethra; the retentive power is almost if not altogether lost, the urine flowing off as fast as it is deposited by the ureters.

So great have been the inconvenience and suffering to which patients of this class have been subjected, that the attention of surgeons has long been directed to this formidable trouble, but it is not till within the last twenty years, that any operation for its radical cure has been successfully performed. It is only ten years since, that Mr. Henry Earl remarked, "it must be confessed, that under the most favourable circumstances, these cases present the greatest obstacles, and are certainly the most difficult that occur in surgery." He succeeded, however, in perfectly restoring three such cases; "in one of which," he says, "I performed upwards of thirty operations before success crowned my efforts."

The obstacles to success are numerous and must be apparent. The narrow space in which the operation is to be performed, the disposition of the urine to pass between the lips of the wound, the proximity of the ureters, the great secretion of mucus by the inner coat of the bladder, which is well calculated to interfere with the union of the parts, and the want of readiness with which mucous surfaces take an adhesive inflammation, are all very likely to defeat almost any operation, however well it may be done.

Several modes have been devised of operating for the radical cure of the vesico-vaginal fistula. Dupuytren recommended, where the opening was small, the application of the actual cautery; in his hands, it is said to have occasionally succeeded, but with other surgeons it has almost uniformly failed. The objections to it are numerous, and to my mind, decisive. It is not easily applied; it is difficult, and sometimes impossible to limit its action, and if this be not done, the orifice is enlarged instead of being closed, and the trouble of course aggravated.

When there is a laceration only of the bladder, without loss of substance, union, it is said, has sometimes been effected, by keeping a catheter in the bladder, and thus preventing the flow of urine through the wound. But cases of this kind are rarely so favourable, as they usually arise from a sloughing of the organ, followed by a loss of a portion of its parietes. In these cases it has been preferred to use the ligature, the edges of the opening being previously pared. In a few instances this operation has succeeded; in many it has failed, and in some cases it has been productive of inflammation, which terminated in death. For these reasons, as well as because I am not aware that the operation has been ever before successfully done in this country, I shall give the history of the case and the mode of operating at some length.

Case. A married lady, ætat. 34, and of good health, consulted me on account of a vesico-vaginal fistula. Fifteen years ago, she was delivered, by means of instruments of her first child, which was dead, after having been in labour three days, during all of which time she passed no water. About ten days after her delivery an opening formed between the bladder and vagina, and since that period she has lost the retentive power of the bladder, and all the urine has escaped through the opening, except when a catheter has been introduced. Occasionally when in a horizontal posture there would be no escape of urine for two or three hours, though usually there was a continuous flow, but when in an erect position it was constantly dribbling, causing great inconvenience and distress. She had been eleven times pregnant since the accident, but had never gone her full period since the birth of her first child. It is not improbable that the fistula might have had some influence in the production of these repeated abortions.

The only attempts that had been made to relieve her, consisted in the introduction of a catheter, which she wore for a considerable length of time, and touching the edges of the opening with caustic. Neither of these means afforded any relief; of late nothing had been done and she regarded her case as almost hopeless.

Upon examination, I found the fistula situated from an inch and a quarter to an inch and a third behind the urethra, a little on the left side. It was not large, barely sufficient to admit the end of my forefinger, and surrounded by a hardened edge, nearly of the consistence of cartilage. There was

some degree of morbid sensibility in the lining membrane of the vagina, so that an examination was quite painful.

I told her that an operation for the difficulty had been several times successful; that it had more frequently failed, and that in a few instances it had been followed by very serious consequences. At the same time, I regarded her case on the whole as a favourable one, and if, after this explanation, she wished for an operation, I would cheerfully undertake it, She at once consented, and it was fixed for the next day but one, May 10th, 1839, when it was performed in the following manner, in the presence of my friends Drs. Channing, C. G. Putnam and J. B. S. Jackson.

The patient was placed on the edge of a table, in the same position as in the operation for lithotomy. The parts being well dilated, I introduced a large bougie into the urethra and carried it back as far as the fistula. In this way I was able to bring the bladder downwards and forwards, so that the opening was brought fairly into view. The bougie being then taken by an assistant, I made a rapid incision with a scalpel around the fistula about a line from its edges, and then removed the whole circumference of the orifice. As soon as the bleeding, which was slight had ceased, I dissected up the membrane of the vagina from the bladder all around the opening, to the extent of about three lines. This was done partly with the view of increasing the chance of union, by presenting a larger surface, and partly to prevent the necessity of carrying the needles through the bladder. I then introduced a needle, about a third of an inch from the edge of the wound, through the membrane of the vagina and the cellular membrane beneath and brought it out at the opposite side at about an equal distance. Before the needle was drawn through, a second and a third were introduced in the same way, and there being found sufficient to close the orifice, they were carried through, and the threads tightly tied. Each thread was left about three inches in length. I should have remarked, that I found no difficulty in introducing the needles by the hand, the fistulous opening having been brought so low down and so fairly in view.

A short silver catheter constructed for the purpose was then introduced into the bladder, and the patient was conveyed to the bed and laid on her right side, to prevent any urine from coming in contact with the wound. I found her in the evening, eight hours after the operation, quite comfortable. She had had some smarting for two or three hours; but this was soon gone; she complained a little of the catheter; all the water flowed through it and was received upon cloths. She was directed to live on thin arrow root, milk and water and a solution of gum arabic.

In the morning I removed the catheter, lest it might become obstructed, and after cleansing replaced it. No water had escaped through the wound. The patient had slept some in the night; her pain had been slight and all her sufferings she referred to the instrument. Her pulse was good and she

had no febrile symptoms. She was directed to keep in the same position, to live on the same diet and take a solution of salts early the next morning.

She went on perfectly well for five days, the catheter being removed daily. At this time I examined her by means of a speculum. I found that the stitches were quite firm and that the wound had apparently healed in its whole extent. There was no oozing of water through it, though she was then lying on her back and there was urine in the bladder, as it flowed through the catheter as soon as I introduced it. I then cut away the stitches, which I found by no means easy, as I was afraid to bring down the bladder as was done in the operation, lest the wound might be torn open. The stitches however were at length safely removed, and in doing this I was much indebted to the assistance of my friend Dr. Putnam.

A smaller catheter was now introduced, and the patient put to bed in the same position as before. She continued very comfortable for two days, much more so than she had been at any time before, which she attributed to the size of the instrument. I then renewed the catheter altogether and directed her to introduce it every three hours, so as to prevent any accumulation of urine. This she did till the second night, when she slept quietly for seven hours and on waking felt no inconvenience. Twice also during this period she passed water by the efforts of the bladder alone, so that the organ had already regained in part its expulsive power, as well as that of retention. She now set up, introduced the instrument less frequently and was allowed a more generous diet.

At the end of seventeen days from the operation I examined her again; the wound was entirely healed and apparently firm, and the soreness nearly gone. I advised her to introduce the catheter two or three times a day for some weeks; and on the following day she returned home by water, a distance of nearly two hundred miles.

Every thing connected with this case proved more favourable than I had anticipated. The operation was not difficult, nor very painful; it was followed by no bad consequences and afforded complete relief. Perhaps the mode in which the operation was done, may have contributed something to its successful result. No violence was done to the parts by drawing down with hooks the fistulous opening, as in the common mode, nor was the bladder wounded by carrying the needles through it, which I presume is the usual practice. I do not speak with certainty on this point, for I cannot find that any one has given a precise description of the mode in which the operation is to be performed. It may be inferred from the following remark of Dieffenbach, that he carried the needles through the bladder, "It is enough to say," he remarks, "that the operation is always a dangerous one, chiefly on account of the injury done to the bladder; the suture always producing more or less inflammation of the edges of the fistulous opening, or of the surrounding parts." Now it seems to me that in almost every case in which the ligature would be the proper mode of operating, the edges of the

bladder can be brought in contact, without wounding that organ. The chance of adhesion would be much greater, and the danger of inflammation incomparably less. By dissecting up the membrane of the vagina to a considerable extent around the orifice and carrying the needles through this at some distance from the edge of the wound. I cannot doubt that the edges of the bladder, which of course should be previously pared, may in almost every case be brought into close contact.

This of course cannot be done where there is great loss of substance, but in such cases the ligature would not alone be sufficient, and some attempts have recently been made to treat them by the plastic method. "This operation consisted," says Blandin, "in paring the edges of the fistulous orifice, and adapting over it an oval flap derived from the internal surface of the large labia." This operation, according to the British and Foreign Medical Review, has been performed with some success by M. Jobert. In one instance "much inconvenience was experienced from the aftergrowth of hair in the transplanted flap."

I have ventured to make these suggestions, which I do with great diffidence, with regard to the mode of operating, because there is no case in surgery in which a successful operation gives more complete relief than in that of vesico-vaginal fistula, or relieves a greater amount of wretchedness, and because it is by no means well settled what is the best mode of treating this distressing infirmity. The attention of so many enlightened surgeons being now directed to the subject, gives reason to hope that an effectual remedy will be found for this deplorable malady.

Boston, June, 1839.

ARTICLE III. *A Case in which a portion of a Percussion Cap was extracted from the Anterior Chamber of the Eye by an Operation.* Communicated by THOMAS SEWALL, M. D., of Washington, D. C.

THE following case occurred in a son of the Hon. W. C. Rives, of Virginia. At the time of the accident, Mr. Rives, being a member of the United States Senate, was residing in Washington with his family. Alfred, the youngest son, had but recently recovered from the measles, which was at that time epidemic in the city. The disease was severe, but passed off kindly, leaving him only, as is common in that disease, with a very irritable state of the system. He was naturally spare and delicate in his form, but possessed an elasticity and vigour of constitution, physical and intellectual, rarely met with in a youth of his age.

On the 7th of March, 1838, while standing in the street, near his father's residence, a boy who was passing, exploded a copper percussion cap, a

fragment of which struck the globe of the left eye, entered the cornea near its centre, passed obliquely through it, and embedded itself in the iris to the left of the pupil. The fragment which entered the eye, was ragged and angular, the eighth of an inch in length, and the twelfth of an inch in width. It extended its greater diameter from the pupil, to the circumference of the iris, and though embedded in the iris, it was still visible in its whole extent. Such is the history of the case, and such was the state of things when I was hastily called by the father to visit his son, at four o'clock in the evening, a few moments after the accident had happened. Upon examining the case, I apprised the parents of its critical nature, and of the probable necessity of extracting the metallic body by an operation, in order to prevent the destruction of the eye, from subsequent inflammation, and advised the father to step into the cars, which were about to leave for Baltimore, and procure, if possible, the assistance of that eminent surgeon Professor N. R. Smith.

In the meantime, the patient was placed in bed, with the head elevated, the room darkened, a cold lotion applied to the eye, and in the course of the evening, twelve ounces of blood were taken from the arm, and a dose of purgative medicine exhibited. All stimulants were prohibited, and no other nourishment allowed than barley water. The extremities, which had become cold, resumed their natural warmth, and a gentle perspiration spontaneously broke out over the whole surface. Very little pain ensued, till the lapse of thirty-six hours; when the system reacted, the pulse became full, hard and frequent; the skin hot and dry; and the eye manifested evident marks of approaching inflammation, accompanied with paroxysms of severe pain. These symptoms were subdued by further bleeding, purging and the use of Dover's powder. Dr. Smith did not arrive in time to examine the eye until Sabbath morning, forty-two hours after the injury was inflicted. Upon a careful examination of the case, with all the attendant circumstances, it was determined on to open the eye, and, if possible, extract the metallic substance, as affording the only hope of preserving vision, or saving the eye from disorganisation.

The patient was accordingly placed on a table of suitable height, with the head slightly raised, and the eye exposed to the most favourable light. Ample preparation was made to secure the patient by means of assistants, but the youth chose to rely upon his own self control; and this was found fully adequate without the slightest interference of the bystanders. The operation was commenced by separating the lids and fixing the globe of the eye by the aid of the fingers. The cornea knife was then passed in a horizontal direction, into the anterior chamber of the eye, through the cornea, near its external margin, as for the extraction of cataract, except that the incision was less extensive. Through this incision, a pair of delicate forceps were introduced, the metal seized, and by several partial turns of the instrument, it was disengaged from the iris and extracted. A few drops of

blood followed the operation; a portion of the aqueous humour was evacuated and the cornea collapsed. The operation was performed by Professor Smith, with an adroitness and precision which I have seldom witnessed under circumstances far more favourable to the surgeon. It was only a few minutes after the patient was placed on the table, before the operation was completed, and he returned to the bed.

The subsequent treatment of the case for several weeks, consisted mainly in the abstraction of all stimulants, and as extensive depletion as could be practised with safety. All light was excluded, the room preserved of a uniform temperature, kept well ventilated and free from noise and confusion. No one but the mother was permitted to approach the patient, and her presence seemed always to soothe and tranquillize him; while her watchful care and discriminating judgment seemed to anticipate every exigence, and overcome every difficulty. The head and shoulders of the patient were kept constantly elevated, and this position seemed essential to his ease and comfort, through the whole of the inflammatory stage of the case. Cloths wet in cold water were constantly applied to the eye, and were never permitted to become warm or dry. Blood was taken a few times from the arm; the bowels were fully purged every day or two with calomel, followed with magnesia, and the pain was constantly subdued by the use of Dover's powder, or the sulphate of morphine. The diet consisted mostly of gruel and barley water. But these articles were administered but sparingly. After a few days, the extract of belladonna was applied twice daily to the lids of the eye, and over the adjoining skin, with a view to prevent a permanent contraction of the iris, and an obliteration of the pupil, to which there seemed a strong tendency. Great care was taken to keep up an equality of excitement of the system, and especially to preserve a due degree of moisture of the skin; and no circumstance seemed more essential to his comfort, or more effectually to counteract the tendency to inflammation, than a uniform and equal perspiration. For this purpose, the tartrate of antimony was exhibited in small doses. Whenever the skin became dry, the pulse would become hard, and the pain in the eye return with violence. For about ten days after the operation, the inflammation continued to increase; from this time, it gradually declined, but was not entirely subdued till the end of the seventh week. During the whole of this period, the diet was entirely vegetable, and of the most bland and innutritious character. Barley, rice, potatoe and cracker, with a little currant jelly and water were allowed, but were taken very sparingly. After the first week, calomel was exhibited in alterative doses of half a grain, till the mouth became slightly affected. After this, calomel in three grain doses was exhibited twice in the week, and purged off with magnesia. During the period of active inflammation, so much coagulable lymph was effused from the edges of the wounds in the cornea, and particularly that inflicted by the fragment of the percussion cap, that nearly the whole of the cornea became

white and opaque, and the anterior chamber of the eye appeared as if filled with the same substance, and there seemed but little prospect of the restoration of the function of vision; but as the inflammation subsided, the lymph was gradually absorbed, leaving only one or two slight specks indicating the position of the wounds in the cornea. Vision, though still imperfect in the affected eye, is so far restored, as to enable the youth to see all large objects that are passing, and to read letters of large size; and the structure of the eye is so perfect, that scarcely any difference is observable between the two organs, without a careful inspection.

As the case is a novel and interesting one, I shall here subjoin the letter of Mrs. Rives, in answer to one I had written her. Although it contains some things which I have mentioned in my communication, it will be read with interest on account of the intelligence which it manifests, the beautiful simplicity of the style, as well as the importance of the circumstances which it details.

CASTLE HILL, *November 15th*, 1838.

DEAR DOCTOR:—I had the pleasure of receiving your kind letter a few days ago, and take the earliest opportunity of thanking you for this added proof of your remembrance, as well as answering your inquiries respecting our little boy Alfred. I wish, very much, that you could yourself see the condition of his eye at present, that you might be able to judge of the improvement it has made, and to decide whether there is any hope of farther amendment; for though during a month after our return home, the improvement exceeded our expectations, it has, since that time been so slow, as to be hardly perceptible. I think at this time that the injured eye is free from any inflammation, and he raises the lid as easily as the other. The cornea is clear except a white spot around the cicatrice where the metal was extracted, and a white *streak*, which extends from this spot, and still obscures the lower part of the pupil. The pupil is decidedly smaller than the other and seems to me not exactly in the centre, but rather nearer the lower part of the eye. He can distinguish letters of a tolerably large size, though he seems to find great difficulty in reading words. Sometimes in looking at the moon, or the flame of a candle, he says they appear differently from what they do to the other eye, and often says "the moon looks *long* instead of round."

It will give me much pleasure, dear sir, to answer your queries respecting the treatment of the little boy, as far as I remember it, and I dare say I may be able to refresh your recollection of the matter, as it left an indelible impression on my mind. The sorrow and trouble caused by so alarming an accident, as well as the kindness manifested towards us both by yourself and Dr. Smith, will never be obliterated from our remembrance.

The accident occurred in March last, as you remember. The little boy, then just seven years old, was with his elder brother, near the door of our house in Third street, when a lad passed by, and stopping for a moment, exploded a percussion cap on the pavement by striking it with a stone. A considerable fragment of the cap flew in our little boy's left eye, entering the cornea below, and passing across a part of the pupil, lodged on the iris beneath the cornea; presenting the appearance of a metallic substance on the face of a watch beneath the crystal. This occurred at four o'clock in the afternoon, we immediately requested your attendance; you came and brought instruments with you; but after examining the eye, advised us to send for Dr. Smith. Mr. Rives immediately took a seat in the Baltimore car which left Washington at five o'clock. By your direction the little boy was put to bed, without his dinner, though he asked for it several times, as he appeared then to suffer little pain. You then bled him, and advised me to give him a dose of purgative medicine, which I did. During that night and the follow-

ing day he remained quietly in bed; the room darkened very much. The evening of the day after the accident occurred (Saturday) Dr. Smith came; he had been detained in Annapolis, and could not come sooner. The day had been so very dark, that if he had been with us, he said an operation of so delicate a nature would have been impracticable. Through the mercy of Divine Providence the ground was, on the night of his arrival covered with snow, which afforded the most perfect light without the glare of the sun, which was still obscured. That night (Saturday) the little boy slept tolerably well, until about daybreak, when he complained of a shooting pain through his eye, which he described as a pin sticking through it, the pain appeared severe, and returned at intervals, lasting only a short time. At nine o'clock Sunday morning Dr. Smith and yourself came. The Dr. for the first time had an opportunity of examining the injured eye, and my watchful and inquisitive glance detected, I thought, disappointment and apprehension. His consultation with you lasted an hour, when he determined on extracting the metal. The little boy was extended on a table, and a formidable array of assistants provided to hold him. You doubtless remember how unnecessary these preparations were; with what firm quietness he submitted to the operation. I held his head, and though my eyes were closed, I felt him turn again to the Dr, to extract the metal with the forceps after the incision was made. A very small quantity of blood flowed from the wound, not more than one or two drops, which I think the Dr. said gave him hopes that the iris was not materially injured. After the operation, the little boy was again put to bed, and the room was kept very dark and very quiet. My presence seemed to tranquillise him, and I watched over him day and night. During all that day and night he complained much of the pain in his eye; sometimes the paroxysms were very violent, and at last became so distressing that you directed anodyne powders to be given him whenever he suffered great pain. I continued their use for several days and nights. I think during this time he was bled twice; and took several doses of calomel followed by magnesia. His diet was of the lightest kind, and happily for several days he seemed to have no appetite, and sometimes complained of nausea. A slight draught of milk and water, a little currant jelly and water, or a few mouthfuls of rice without butter, was all he took for several days. The Dr. advised the use of the belladonna, immediately after the operation. I tried it several times, but it seemed to aggravate the pain to so violent a degree that you advised me to discontinue it for a while; this I did until the pain subsided and then recommenced the use of it. A few days after the operation, you gave him small doses of calomel, I think half a grain twice a day; which was continued nearly a week, when his mouth became slightly affected, and it was then discontinued. After that time you gave him three grains of Calomel twice a week, followed by magnesia. In about a fortnight you tried some of the nitrate of silver, but after dropping it once or twice in the eye, discontinued it. I think you said it increased the inflammation. Dr. Smith then recommended the use of Dupuytren's powder; consisting of calomel and loaf sugar and this blown into the eye; this was done once in two days, and the belladonna used twice a day, by rubbing it on the outside of the eye. I cannot speak of the progress of the inflammation, or the appearance of the eye, as I could never summon resolution to look at it during this time, but you doubtless remember its appearance.

During the confinement of six weeks to a dark room, he complained of nothing but the pain occasioned by this accident. He was sometimes nervous, and I used every precaution during this time, to avoid all excitement, particularly any interruption to his sleep. When he was awake I was always with him, and amused his mind by talking with him, reading his favourite little books, and soothed him to sleep again by singing the little nursery hymns he loved to hear. I never permitted him to be irritated, alarmed, or disturbed. He was always kept quiet, calm, and as far as his situation admitted, happy. In my endeavours to this end, I was blessed by the aid of an unseen and benignant power; and you may, perhaps, remember some of these sweet dreams of which he used to tell us, and which proved that though deprived of light, that "offspring of heaven first born," it was permitted to him to "see and tell of things invisible to mortal sight."

During the two months we spent in Washington, great attention was paid to his

diet, which was light and spare; a few grains of calomel given twice a week and followed by magnesia. His health seemed unimpaired, though he became very pale and thin. When we returned to our residence in the country, the change of air seemed to revive him entirely; and though the diet and medicine and daily use of Dupuytren's powder and belladonna were continued, he gained rapidly in flesh strength and colour, which he attributed to "smelling the roses, and hearing the birds sing, and feeling so glad." We have ever since our return used many of the precautions you advised. When he goes out, even now, his injured eye is shaded from the light; I make occasional use of the powder and belladonna to the eye and pay great attention to his general health.

I remain, dear sir, with the highest respect and esteem, yours truly.

J. I. RIVES.

DR. SEWALL.

Remarks. From a slight examination of the foregoing case, it might appear to present but little more danger or difficulty, than that of an ordinary operation for the extraction of cataract; but upon a closer inspection, it will be found to involve circumstances widely different, and to present some points critical in their nature, and worthy of special attention.

1. It should be recollected that there was but little opportunity in this case, to prepare the system for an operation, by previous depletion and low diet, as in that for cataract.

2. We had to encounter not only the inflammation occasioned by the use of the cornea knife, but that also caused by the ragged fragment of a percussion cap, forcibly driven through the cornea, producing a contused and lacerated wound; and in addition to these, the inflammation resulting from the injury done to the iris, by the metallic substance, which was so embedded in its texture, as to require considerable force to disengage it.

3. It became a point of serious deliberation, and one of the greatest moment to decide, whether it would be possible to preserve the eye, either in its structure or function, without the extraction of the foreign substance; and whether the inflammation which would necessarily result from such an operation, would be more hazardous to the organ than the irritating influence of the metallic body embedded in the iris. No case of a similar character could be found on record at the time, to aid the judgment upon this point; but to show the correctness of the decision which was made, I would mention that Professor Smith has since met with a case strikingly similar, in which a portion of a percussion cap was permitted to remain in the eye of a youth, in contact with the iris; the consequence of which was ruinous, both to the structure and function of the organ. In this case, the metallic substance ultimately worked out through the sclerotic coat, by the process of ulceration, and was finally extracted, after severe and protracted suffering. The difference in the result of these two cases, therefore, would seem to furnish a strong indication in favour of the extraction of foreign substances lodged in the eye under similar circumstances.

4. Depletion by the lancet, frequent purging and low diet, the exclusion of light, the elevated position of the head, the constant application of cold

water to the eye, the use of antimonials in equalising and subduing the excitement, and in promoting perspiration; and anodynes in doses sufficient to allay the pain and tranquillise the system, were the principal remedies relied on during the period of active inflammation; and their salutary influence was obvious and striking. It was only by the assiduous application of this course of treatment, under the administration of a judicious and vigilant nurse, that the inflammation was controlled, and the eye preserved from disorganisation.

5. After the stage of active inflammation has passed, the good effect of abstinence, rest, the exclusion of light, the use of laxatives, and alterative doses of calomel, was evident in removing the remaining inflammation and in promoting the absorption of the lymph which had been deposited in the cornea and anterior chamber of the eye. At the end of two weeks from the time of the accident, scarcely any one would have supposed it possible from the appearance the eye then exhibited, that vision could be restored, or even the organic structure of the eye could be so far preserved as to present a tolerable appearance, and yet, by the persevering application of the above remedies, the absorption of the lymph was promoted, until scarcely a vestige of the opacity remained, and the eye resumed nearly its natural appearance.

6. The constant and protracted application of the extract of belladonna to the eye and the neighbouring parts, was indispensable. It obviously prevented a permanent contraction of the iris, and an obliteration of the pupil, to which there was from the commencement a strong tendency.

Article IV. *Case of Sudden Death, with Remarks on that Occurrence.*

By Edward Warren, M. D., of Boston, Massachusetts.

Nothing is of more frequent occurrence in the life of a physician, than to be called in haste to a person, who is said to be "in a fit."

He finds, on his arrival, the friends of the patient in the utmost consternation and alarm; but in this he does not ordinarily participate; because he is aware that these are generally false alarms, and that, in nearly all such cases, where there is no particular evidence of cerebral or cardiac disease, the patient recovers spontaneously, and the *fit* leaves him in nearly his usual degree of health. Cases of apoplexy, paralysis or epilepsy, are rare in comparison with those of hysteria or syncope, and still more rare are the cases that have a sudden and fatal termination.

Amidst the infinite number of false alarms, however—amidst the numerous cases of syncope and hysteria, one sometimes occurs of more serious consequence. The patient, without having previously exhibited any striking marks of organic disease, is suddenly seized with symptoms, which appear

at first, only those of ordinary syncope, or of some hysterical affection, but which baffle the expectation of the physician, and resist all his efforts to restore animation.

A case of this kind recently occurred to me. The patient was a young woman of very delicate appearance, aged eighteen. She was married at fifteen, and had several times miscarried, but had no children. She was a domestic in a private family, where she had charge of children, but was never able to do any hard work, in consequence of a weakness at her "stomach." She frequently complained that it hurt her to go up stairs. She was of a lively disposition, but yet had frequently, if not habitually, a slight degree of that anxious expression that characterizes disease of the heart. Menstruation had always been difficult, and its occurrence frequently preceded or attended with fainting.

For several days preceding the attack I am about to describe, she had been in unusually high spirits, especially on the evening previous, Saturday, which was about the time for the menses to come on. On this day, she complained of weakness at the "stomach." In the evening, she visited a friend, to whom she complained that she felt strangely—"she had no sense." After her return home, however, she was in extravagantly high spirits. Sunday morning, she seemed as well as usual. She ate breakfast about eight o'clock, consisting of coffee, bread and fish—rather less than usual. She then went up stairs about her work, and came down about ten minutes past nine. She had reached the lower entry through which she was passing, when she was heard to fall, making at the same time a gurgling noise in the throat. She was found lying upon her face—her countenance very much flushed and hot. I saw her about ten minutes after she fell. Her face was of natural appearance, neither very red nor pale; her extremities were cold; there was gentle respiration. I immediately felt the pulse, which I found beating with moderate force and quickness. The eyes were closed, and the pupils slightly dilated, but in a natural position. She was lying upon a sofa, senseless and motionless. There was no stertor; no frothing at the mouth; no spasm. All the muscles were perfectly lax, and her limbs and head fell in any direction they were permitted. I directed the usual means for restoring suspended animation, to be instantly resorted to. Volatile drops were exhibited internally; hot water applied to the feet; a mustard poultice to the abdomen, and the temples and extremities were briskly rubbed with volatiles.

When I first saw her, there was nothing alarming in her appearance. I supposed it to be a common hysterical paroxysm, which might naturally be attributed to dysmenorrhœa. The pulse, however, soon stopped, and respiration ceased. The attempts to restore the latter function by artificial means failed, and the extremities became gradually colder. The attempts to restore animation were continued for about three hours. The body was then nearly cold; but there was not the slightest rigidity of the muscles:

the flexibility of all the parts continued. It is a subject of great regret, that the patient being of an Irish family, I could not obtain an examination.

With regard to the treatment of such cases, we generally are guided by circumstances. Where the symptoms are those of cerebral congestion, we bleed; where there are marks of impeded respiration, we open the trachea. In this case, there were neither. The symptoms being those of syncope, venesection, supposing it to have been possible to obtain blood, would have been manifestly improper. In cases of spasm, emetics, cathartics and stimulating enemata, will sometimes rouse the powers of the system, by exciting the parts to which they are applied, and restoring their natural functions. But when there is no action; when there is a sudden prostration of the system, an *ancantissement* of all the functions at once; the two former remedies are inapplicable. Enemata may be tried, indeed, where they can be employed without interfering with other measures; but we have more to hope for, in the first instance, from the exhibition of stimulants by the mouth, where they can be administered, and from powerful external applications. When, by these means, we have succeeded in exciting some slight degree of action, we may then derive advantage from stimulating enemata. In the case in question, supposing at first that it was one of hysteria, which is well known to assume every variety of form, I did not consider powerful remedies called for, and within a very few minutes, animation was so entirely lost, that there could have been nothing to hope for from injections.

The excitement that she had previously displayed, her extravagant spirits upon the evening before, and her complaint of "want of sense," would seem to point to the brain as the organ in fault. On the other hand, her frequent complaints of weakness at the stomach, by which she undoubtedly meant her heart, would seem to point out the latter organ as the seat of disease. Any affection of the heart that produced an increased impulse of the blood upon the brain, through the carotids, would, of course, produce cerebral excitement. Accordingly, we find that severe affections of the heart or pericardium, are not unfrequently attended by delirium. A slighter affection, of a similar kind, will therefore produce merely a greater or less degree of excitement, according to circumstances.

A remarkable feature in this case, was the continuance of pulsation, strong and full at the wrist, after the loss of sensation. In common cases of cardiac lesion, the pulse must cease almost instantly. This continuance of pulsation might be supposed to show that the functions of the brain were destroyed previously to those of the heart. It does not, however, follow by any means, that this organ may not occasion the death of the cerebral functions, (if I may use the expression,) by some sudden perversion, not by cessation of its action, and continue to act itself for some seconds after.

In the first volume of the Medico-Chirurgical Transactions, we find a paper by Mr. Chevalier, giving an account of three cases of sudden death, which appear somewhat similar to that which I have described.

The first was that of a young married lady, who died suddenly at a very early period after impregnation. While talking with her husband, she complained of being faint, and desired to lie down. She was led to her bed, and was supposed to fall asleep in her husband's arms. About 20 minutes after, he rang for the servant, who, on entering the room exclaimed—"My mistress is dead!" So indeed it proved.

On examination, no morbid appearances were found in any of the viscera, but there was an extreme flaccidity of the heart, and an entire emptiness of the cavities. There was blood in the vena cava, and in the pulmonary veins. The auricles and ventricles were destitute of blood, without either of them being contracted. Mr. C—— thinks that this lady died in a peculiar kind of syncope or asphyxia, in which the action of the heart had ceased, from want of a regular supply of blood from the returning vessels.

The second case, was that of an elderly man, who had recently recovered from a maniacal affection, and who fell suddenly from his chair, breathed short for a few moments, and then expired. The only morbid appearance, which was found in the brain, consisted in ossification of the falx, evidently of long duration. The state of the heart was found similar to that in the former case. All the cavities were empty, but *uncontracted*, and the vena cava was also empty to the distance of several inches from the auricle. No other appearance could be detected in any viscus, by which death could be accounted for.

The third case was that of a lady who died suddenly, after being delivered of twins. After the birth of the second child she appeared a good deal exhausted notwithstanding that the discharge of blood was very moderate. She recovered a little, but about two hours after, grew suddenly faint; breathed short and died in about half an hour.—All the cavities of the heart were found in a state of relaxation and completely destitute of blood. There was no blood in the vena cava near the heart, and the emptiness of its ascending branch extended as low as the iliac veins.

Mr. C. remarks that he has been able to find only two *cases similar*, recorded by medical writers. One of these is recorded by Bonetus. It occurred in a woman about forty years of age, who complained suddenly of dimness, noise in the ears, and headache. She soon lost her voice and pulse and died in four hours after the attack. Not a drop of blood was to be found in the heart or the adjoining vessels.

The other case is from Morgagni. It is similar to the third of Mr. C's cases. It was in a woman who, about an hour after her delivery of a daughter, was suddenly seized with dejection of spirits, coldness and loss of pulse and died in an hour and a half from the attack. On dissection, the heart was found exceedingly flaccid, scarcely any blood was found in the auricles or the right ventricle, and none at all in the left.

Mr. Chevalier concludes his paper with an account of two cases communicated to him by Mr. Woodd, which, though not fatal, appears to be of a

similar nature to the former. He proposes for this affection the name of *asphyxia idiopathica.*

The first patient, Mr. A., was attacked about one o'clock in the morning with an uneasy sensation in the thorax difficulty of respiration, and a sense of extreme lassitude. Mr. W. found him at six, with a pulse hardly perceptible and not more than twenty in a minute, although the vessels of the skin and tunica conjunctiva were loaded with blood. He had taken stimulants freely, notwithstanding which, the action of the heart had decreased. The sense of fainting and difficulty of breathing had become almost insupportable. He recovered under the use of stimulating medicines and enemata.

The subject of the second case was suddenly seized after a long walk with great difficulty of breathing and faintness, so as to be unable to stand or speak distinctly. When seen by Mr. W. his face was suffused with blood, his breathing was difficult with great anxiety, and his pulse scarcely perceptible. He supposed himself dying. He was relieved by the exhibition of stimulants, æther, ammonia, and laudanum. A blister was subsequently applied to his chest and he shortly recovered entire health.

The suffusion of the countenance, Mr. Chevalier considers as distinguishing this last case from one of ordinary asphyxia, and as marking its affinity to the others, as it showed the evident detention of the blood in the extreme vessels.

In two of the cases communicated by Mr. C. and in the one cited from Morgagni—very possibly in the one from Bonetus, the exciting cause of death seems to have been in the uterine system. In the young woman I have spoken of, death took place at the period when the menses were expected but had not occurred, and menstruation had usually been preceded by fainting or some hysterical affection. There was by report great suffusion of the countenance at first, though it did not continue when I saw her but returned afterwards, since her countenance was described by one who saw her on the next day as red and swollen. If this was true, the face was emphysematous, and the emphysema subsequently disappeared, for on removing the body for burial in a different place a fortnight after, it was found perfectly fresh and free from putrefaction, and the countenance of natural appearance.

Another cause of sudden death has been recently suggested by M. Ollivier, to wit, the disengagement of a gaseous fluid in the blood, and its accumulation in the heart. If this is really a cause of death, may it not be a question whether Mr. Chevalier's cases may not be accounted for upon a similar principle? The heart and vessels to some distance from it, were found empty. Now might not the air have escaped upon opening the heart, without being perceived; or might it not have been absorbed or passed off in some manner, after the coagulation of the blood in the vessels? But Mr. Chevalier states that the cavities were found dilated. If so, they must have been

filled with something, and if not with blood or other perceptible matter, of course they must have been filled with air. The escape of air into the cavities of the heart would of course exclude the blood. Let us now see how the description given by M. Ollivier corresponds with that of the foregoing cases.

M. Ollivier gives three cases. The first was that of a young child who had been affected with measles, for a few days, and seemed to be quickly recovering from the disease, when suddenly, and without any premonitory symptoms, he fainted and expired in the course of a minute or two. On examination after death, the heart and large vessels were found distended with air, the parietes of the heart emphysematous and the cavities quite empty. The emphysema extended itself in the course of a few hours after death, through the cellular membrane of the body. No morbid change was found in the viscera, and there were no marks of putrefaction.

In the second case, that of a robust man, similar appearances were observed. This individual died suddenly a few minutes after he had retired to bed, seemingly in perfect health. General emphysema appeared about twelve hours after death; but without the slightest sign of putrefaction.

The third case was that of a young woman aged twenty-two, who was recovering from a fever which had left her for some time very weak. One afternoon, after having been engaged in trying on some masquerade dresses, she laid down upon her bed, to rest herself preparatory to her evening amusement. Upon attempting to rise and dress herself, she suddenly felt extremely faint, her head fell forwards on her chest, she screamed out that she was dying, and expired almost instantly.

M. Ollivier found the expression of her features calm like that of one asleep. The brain appeared to be quite healthy, though the blood which flowed from the divided vessels was frothy from the mixture of air. The cavities of the heart were remarkably distended, and, as it were, blown out. When an incision was made into the parietes, they at once sunk down. The lungs and all the pelvic and abdominal viscera were sound.

The peculiar circumstances of this case and its analogy to those in which sudden death has taken place from the accidental introduction of air into a vein, led Mr. C. to attribute it to the cause above mentioned. In these cases a whistling sound had been heard upon the division of a vein, during a surgical operation, the patient has expired almost instantly, and the heart upon examination has been found empty of blood and distended with air, and air bubbles found in the blood. M. Velpeau after a critical examination of the forty cases which have been given as supposed instances of this accident, and a comparison of them with experiments made upon animals, is disposed to deny that there has been as yet sufficient evidence adduced that this is really a cause of death. It must however be very difficult to imitate a natural phenomenon of rare occurrence by any artificial means. Because a large quantity of air is found requisite in an experiment to destroy an animal in

the manner mentioned, it does not follow that a less quantity under certain circumstances may not be fatal to the human subject. The small size of the vein through which the air is said to have been admitted, is no proof, therefore, that it was not the cause of death. The occurrence of the sound that has been noticed, like that of the passage of air through a narrow passage, the state of syncope, if not of death into which the patient instantly falls, and the emptiness of the cavities of the heart, or their distention with air might seem to be so good evidence of the accident, as is generally attainable upon medical subjects.

If this be admitted as an occasional cause of death, the question next occurs, in what manner does the air find admission into the heart, where no operation has been performed, and where the patient has suffered no external injury? Into the discussion of this question, I do not propose to enter. It is sufficient that Bichat and other distinguished writers maintain the possibility of such an occurrence. Bichat speaks of it as instantly fatal.

I think it will be admitted upon a comparison of the cases above mentioned, that there are general features of resemblance between the whole of them. One cause of fallacy in the report of medical cases, is that each observer is apt to pay particular attention, and attribute most importance to certain facts, especially if they correspond with his own views; while other facts, perhaps, of more real consequence, pass entirely unnoticed. Thus, had the first observer, whose cases I have cited, had his attention called to the subject, he might have found reason to consider the cause of death the same as in M. Ollivier's subjects. Cases of death occurring suddenly during operation, as M. Velpeau remarks, were explained in various manners, and attributed to various causes, long before that of the introduction of air through a divided vessel was suggested; but as soon as attention was called to the subject, instances were speedily observed.

The cause of death assigned by Mr. Chevalier, the retention of the blood in the extreme vessels, does not seem to be sufficient to cause the sudden cessation of the action of the heart. The phenomena would be better accounted for by attributing them to an action that would expel the blood from the heart, and force it into the minute vessels, than to one that merely delayed the return of the blood. Supposing the heart to become suddenly distended with air, or suppose its action to be suddenly increased by the application of some unaccustomed stimulus, there would be a rush of blood upon the brain, sufficient to induce immediate paralysis of that organ. This effect might be consistent with subsequent retardation of the heart's action, provided life was not destroyed by the first shock; for the effect of all stimuli is at first to increase, but secondly to retard the action of the parts to which they are applied. In this manner, the continuance of pulsation at the wrist for a short time after consciousness was lost and the vitality of the brain extinct, might be accounted for.

The case which I have recorded is incomplete, since permission could not

be obtained for a post mortem examination; still there can be little utility in these examinations, unless they enable us to argue from the cases in which we obtain them, to those in which we do not: nor are they of any practical value, unless we can derive from them the information necessary to detect the morbid cause by the symptoms exhibited in the living subject.

We find that some authors still place the cause of the most sudden and instant death, in the brain; but it is now most generally conceded, that the heart is most frequently in fault.* In old persons, especially when symptoms of cardiac affection have previously existed, and where we find no marks of cerebral disease, we may generally suspect rupture of the heart. All the cases recorded of this lesion, however, have occurred in old people, and it certainly is not one that we should look for in the young.

Cases of apoplexy, epilepsy and paralysis are, in general, too strongly marked to be mistaken, but the symptoms when the heart is affected are those of syncope or collapse.

Boston, May 11th, 1839.

ARTICLE V. *Remarks on Cholera Infantum.* By HARVEY LINDSLY. M. D., of Washington D. C.

IN looking over the returns of deaths as made to the Board of Health of the city of Washington, I have been struck with the very large proportion of children under two years of age, and on examining into the causes of this fatality, have remarked that, from the month of July to September inclusive, affections of the bowels have been exceedingly numerous.

For example, it will be seen by the following table, that of the whole number of deaths in the month of July and August nearly one half, and in two instances *more than one-half*, were under two years of age; and that of this number, almost three fourths died of what is usually termed here "summer complaint," under which general term are included cholera infantum and simple diarrhœa of children. Also, that the cases were much more numerous in July and August than in June, that a slight diminution took place in September, and that in October the number was again very small.

1837.	Whole No. of deaths.	Under 2 years of age.	Chol. Infant.
June	30	14	4
July	31	14	10
August	52	21	14
September	42	18	3
October	28	6	2

[* A notice of some interesting researches, by M. Devergie, on the cause of sudden death, will be found in our No. for February, 1839.—ED.]

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1838.	Whole No. of deaths.	Under 2 years of age.	Chol. Infant.
June	18	7	2
July	41	25	15
August	59	28	22
September	50	26	14
October	33	13	2

The ratio of cases of infantine cholera in the above table is about the same as that exhibited by the record for several years past, and this may therefore be assumed as the proportion of victims annually destroyed by this fatal disease in Washington, during the months referred to. With respect to the accuracy of the returns, I would merely remark that they were made under my immediate superintendance as President of the Board of Health and that every pains was taken to have them as correct as possible, though I am aware that implicit reliance cannot be placed upon any statistics of this description.

In consideration of the frightful mortality of this disease, and of the immense numbers who are thus every year hurried to an untimely grave, I believe that the attention of the profession cannot be called too often or too earnestly to it, that every physician may be familiar with its history and be prepared to adopt the best known means of controlling the dreadful malady.

It is with this view simply, and not with the expectation of adding much, if any thing, to our knowledge of the disease, or of bringing forward any new remedial measures, that I am induced to offer these cursory remarks to the consideration of the profession. And if I can aid in ascertaining with more precision, the relative value of the numerous therapeutic agents now in vogue or can, in one solitary instance, prevent the wasting of valuable time in the employment of doubtful or injurious remedies, I shall consider my labour amply repaid.

I have, for several years past, devoted most particular and anxious attention to this disease as it has occurred in my own family and among numerous patients, and I feel perfectly satisfied that some at least of the ordinary modes of treating it can be advantageously modified.

Symptoms. This disease presents considerable variety in its mode of attack: sometimes coming on as a simple diarrhœa, which form it may retain for several days, without nausea, pain or fever. These discharges perhaps increased gradually in frequency: the stomach becomes disordered and vomiting takes place. Fever now makes its appearance: the extremities are cold; there is pain in the abdomen on pressure; the countenance assumes a painful and harassed expression; the pulse is generally small, corded and irritable, though occasionally more full and soft; the fever is of an exceedingly irregular and intermittent character, with decided exacerbations towards evening; while the extremities are generally cold and the skin pale denoting a languid and deficient circulation; there are evident determinations of blood

to the head and abdominal viscera, which become hot and burning; the eyes often, perhaps generally, partake of this excitement, being red and fiery and suffused with blood, though they are sometimes languid and dull, and when the patient sleeps they are seldom entirely closed; the tongue is usually of a brownish white, slightly furred and dry, or hard and reddish; the skin on the forehead is tight and sticks close to the bone; the cheeks lose their fulness and colour; the nose is pointed and sharp and the lips become pale and thin; the abdomen swells from flatulency and the feet from œdema; the little sufferer moans and tosses about continually; his perceptions are dull and he takes little notice of surrounding objects and will scarcely be disturbed by flies on his face or even on the eyes. As the disease advances in violence, the thirst is most tormenting and unquenchable, and the vomiting incessant, every thing being rejected as soon as swallowed; in the more unmanageable fatal cases, all these symptoms are rapidly aggravated, the spasmodic action of the bowels is communicated to the whole system, and the last debt of nature is soon paid.

In many, perhaps in the majority of cases, cholera infantum comes on without the premonitory diarrhœa, the little patient being seized at once, when in apparently perfect health, with violent vomiting and purging, which may put at defiance our best devised plans of treatment and prove fatal in two or three days or even in one. It is not unusual, however, whether it make its onset mildly or violently, for the vomiting to cease after a few days, while the purging shall continue for several weeks and finally exhaust the patient, or eventually yield to the remedial course.

The appearance of the evacuations during the progress of the complaint is exceedingly various; there are usually little or no natural feces in the discharges; these are sometimes thin and watery, sometimes more thick and consistent; sometimes they are green, or brown, or white, or yellow; sometimes exceedingly copious and passed without pain, and sometimes very sparing and accompanied with great tenesmus and griping; sometimes very offensive and sometimes entirely inodorous; sometimes the food seems partially or fully digested and at others it is discharged unaltered by the stomach and intestinal canal.

The emaciation which takes place in cholera infantum is most rapid and seems surprising, even when we take into view, the incessant evacuations both upwards and downwards, and that hardly a particle of food is properly digested. No matter how full and plump the child may be at the onset of the disease, in a very few hours, the falling off becomes apparent. The limbs, particularly, exhibit the melancholy change: the skin is dry and rough, and the emaciation continues to advance, unless the disease be controlled by remedies, or arrested by death, till the body resembles a skeleton, having literally little besides skin and bone.

Diagnosis. Little need be said on this branch of our subject, as it is

impossible to mistake this disease for any other: and where it runs into or resembles the analogous diseases of dysentery or diarrhœa, the treatment should be the same as we would direct, if they had constituted the original complaint.

Prognosis. It is extremely difficult, or rather wholly impossible for even the most skilful and experienced physician, to do more than form a guess at the result of any given case of cholera infantum. Scarcely any disease is more uncertain in its duration, more variable in its symptoms, or oftener disappoints the practitioner as to its final issue. It is often suddenly and most unexpectedly fatal, while at other times patients recover under the most desperate circumstances.

We may, however, usually expect a favourable result, when we find the pulse becoming slower and fuller; the alvine dejections less frequent, and especially when they assume a natural consistence and a brownish yellow colour; the temperature of the skin more equable and regular, the head and abdomen losing their preternatural heat, and the extremities their unusual coldness; and especially when the irritability of the stomach wholly subsides and the food is readily and completely digested.

On the other hand, when the symptoms* previously enumerated march steadily onward, unrelieved by medicine and unaffected by time, we may look for a fatal termination. In these cases, however, there is, as already mentioned, great variety, and entire uncertainty as to the period of dissolution. Sometimes death occurs in two or three days, oftener not under two or three weeks and occasionally the patient lingers as many months. If the average duration of the disease could be ascertained, it would probably be found not to vary much from eighteen to twenty days.

Pathology. Inasmuch as cholera infantum prevails extensively, and in fact almost exclusively during the heat of the summer and autumn; as it is most violent and fatal in those seasons, when there is the greatest amount of moisture combined with excessive warmth, and of course the most extensive prevalence of marsh and vegetable miasmata; as it greatly diminishes or ceases entirely on the approach of cold weather; as, in fine, we find it to be produced by the same causes and to be co-extensive in its duration and severity, with the bilious autumnal fevers of our country, it is natural to consider it a mere variety of this class of diseases.

That it does not arise, as some have supposed, from the irritation produced by dentition, is to my mind perfectly evident—because it frequently occurs before that process has commenced, because it is often wanting when the dental irritation is greatest, and because it prevails only at particular

* Dr. Dewees in his valuable work on the diseases of children, speaks of a symptom, which I have looked for very carefully but have never been able to find, except in one or two cases: it is a crystalline eruption upon the chest, of an immense number of watery vesicles, of a very minute size.

seasons of the year. There is no doubt, however, that in children who suffer much from this process of nature, cholera is a more dangerous complaint and more frequently fatal, just as it would be from any other source of irritation superadded to the original disease. Dentition, therefore, as well as irregularities and imprudences in diet, and exposures to wet and cold may be exciting and exaggerating causes of cholera—while still the grand source of mischief—the "*causa causarum*" will be found in the long continued heat of our summer, combined with marsh effluvia.

It may occur at any time during infancy, though the most fatal period is the second summer, and hence, the child is thought to be pretty safe if it escape that trying season. This disease has been frightfully destructive in particular families here—in some, as many as four or five children in succession having been carried off by it.

The system in infancy seems peculiarly susceptible to disease, the least irregularity in diet, or the slightest exposure to atmospheric vicissitudes, being often sufficient to bring on a severe attack of sickness. It is not surprising, therefore, under these circumstances, when we consider the great vascularity of the skin at this period of life, its excessive irritability, and the intimate connection between the due discharge of its functions and a healthy state of the abdominal viscera—that a long exposure to a heated atmosphere, espécially when loaded with miasmatic exhalations, should render the cutaneous vessels unequal to their task of circulating the blood; that in consequence, the circulation should be diminished: the blood driven in upon the central organs, and that diarrhœa, cholera, or inflammation of the viscera be the speedy result.

The appearances observed on dissection fully confirm these views of the pathology of cholera infantum. The thorax is usually found in a perfectly normal condition: the brain in recent cases presents few or no traces of morbid action, and although congestion and sometimes effusion, (constituting hydrocephalus,) are observed in patients who have lingered for several weeks, yet these symptoms can readily be accounted for on the principle of the intimate sympathy existing between this organ and the deranged.

It is in the viscera of the abdomen that the chief traces of mischief are to be looked for. The vessels of the liver, stomach and intestines are unduly distended with blood: the effects of inflammation may often be discovered throughout the whole intestinal canal and particularly in the small intestines: ulceration and even abrasion sometimes occur; dark purple spots may be seen scattered over the mucous coat of the stomach and duodenum while the large intestines are generally found in nearly a healthy condition.

The liver is almost universally engorged with blood, and in cases of long standing greatly enlarged:* a large quantity of bile is generally found in the

* In 1836, I dissected a child 18 months old, that had been sick ten weeks, whose liver was so immensely increased in size as to fill very nearly one half of the abdomen.

gall bladder, sometimes of a dark green colour and at others pale, or almost white. I have seldom noticed any morbid appearances in the pancreas or spleen: while in three or four cases in my dissections, the bladder was quite empty and exceedingly shrivelled—a fact, not mentioned by most writers on this disease.

Treatment. Removal to the country in cholera infantum, like visiting a warm climate in consumption, is considered a sovereign remedy, and one almost indispensable to a cure, by many persons both in and out of the profession. The fallacy, not to say folly, of the idea in the one case, (in a great many instances of consumption,) is, however, now beginning to be realised and acknowledged; and I have no doubt that a more extensive experience, and a more accurate observation of the effects of removal to the country in the other case, will convince the most credulous, that its beneficial effects have been vastly overrated.

Let me not be misunderstood. It is highly probable, perhaps certain, that in the narrow, crowded and filthy streets of some parts of our large cities, children affected with cholera would be benefitted by a removal to the country, where they might breathe a purer air, obtain a more healthy and abundant supply of food, and enjoy better opportunities for invigorating exercise. But, unfortunately, the people occupying such parts of our cities, are, as a general rule, the very persons whose straitened circumstances forbid their adopting this, to them, important remedy.

The practical question then recurs, how far it is advisable for those who reside in airy, well ventilated houses, with all the comforts, and perhaps luxuries of life at their command—with the facilities of having their children carried out every day (by means of servants, carriages, &c. &c.) how far it is advisable for them to sacrifice the thousand nameless conveniences of home, and go into the country to be crowded into small, uncomfortable rooms, far from medical aid, &c., is a point well worthy of mature consideration. Even in such cases, however, perhaps it might be admitted if they would seek an elevated, mountainous country, entirely free from marsh miasmata, and with a decidedly cooler atmosphere than the one they have left; that the change would be eminently beneficial, these latter advantages more than counterbalancing the inconveniences before referred to.

But I do contend that the idea of going a few miles into the country, where the temperature is precisely the same, or probably more oppressive, from the smallness of the houses, and their being generally built of wood—where the miasmatic exhalations are equally or more abundant—removed from the comforts and conveniences of home—at a distance from suitable medical advice—the idea of being benefitted by *such* a change, I do assert, is perfectly preposterous. I have seen it tried again and again, by twenty children being sent in every direction, north, south, east and west, within twenty miles from Washington, and almost universally, they have returned

worse than they left, or have found their grave where they sought renewed health.

The situation of Washington is, to be sure, somewhat different from that of our large cities; and the above remarks are more applicable to it than to them. Our streets are all very wide, a very few of them compactly built; of course, there is no deficiency of ventilation. In addition to this, it should be remarked that the city is more healthy than the surrounding country; hence, nothing is gained as it respects malaria, by removing from one to the other.*

An error, too, is not unfrequently committed in delaying the removal too long, until the patient becomes very weak and almost exhausted, and is entirely unable to bear without injury the fatigue of travelling. In consequence of neglecting this precaution, I have known a child to be sent away almost in articulo mortis and to die on the route, to the great grief, as well as serious inconvenience of its friends.

If, then, a removal to the country in cholera infantum be recommended, let a cool, elevated, healthy spot be selected, and let the change be made before death shall have already marked the victim as his own. In those cases, where a change of residence is not thought advisable, a very good substitute may be found in carrying the child out every pleasant day in a carriage, or the nurse's arms, either into the surrounding country, or merely in the immediate neighbourhood of its residence.

Emetics and Anti-Emetics. The first thing to be done where the disease is fully formed, that is, where nausea and vomiting exist, is, if possible, to allay the irritability of the stomach, in order that the remedies we recommend may be retained. Some physicians, perhaps a majority of those who have written on the subject, advise that the treatment be commenced with an emetic, whether there be nausea or not. It seems to me, that such authors cannot have reflected on the peculiar delicacy and excessive irritability of the organ upon which they propose to operate. Late writers, however, and among them the judicious Dewees, condemn this practice. An emetic most certainly should never be administered in this disease, unless, upon most careful inquiry, we have ascertained that the child has taken some improper article of food, (as raisins,) which probably is still in the stomach,

[* On reference to the writings of Drs. Rush (*Med. Inq. and Obs.* Vol. II.) and Dewees (*A Treatise on the Phys. and Med. Treatment of Children*, p. 426,) it will be found that these eminent men testify to the great benefit which they have observed to be obtained in every stage of cholera infantum, by a removal of the patient to country air; and we believe that the experience of every practitioner of Philadelphia, is confirmatory of this statement. For our own part, we are led to believe that a mere *change* of air is often useful, for we have seen much advantage in some cases, where the disease, after being cured, has recurred in the country, from a return to the city. This of course can only be the case where the town house is spacious and airy.—ED.]

and which may have given rise to the attack; and even in such cases, our object can generally be accomplished by simply encouraging the vomiting already begun, by means of warm water, or warm chamomile tea; which may be continued until every foreign substance is discharged. If an emetic article ever is given, it should be nothing stronger than ipecacuanha.

It is much easier, however, to keep up, than to allay the disordered action of the stomach. I have little faith in most of the anti-emetic articles usually employed for this purpose. I have tried them all, and generally found them useless, sometimes evidently injurious. I refer particularly to peppermint, lime-water, spices, toast and water, laudanum, &c. Dewees recommends strong coffee without sugar, or milk in teaspoonful doses as an efficient remedy. This I have never found to answer, except in two or three cases, partly, perhaps wholly, because it is extremely disagreeable to children from its powerfully bitter taste; an objection, certainly in itself of no little weight. I place much more reliance on another remedy, which he likewise recommends in very strong terms, viz. an injection of a gill of warm water, in which are dissolved two or three teaspoonfuls of common salt, to be repeated *pro re nata.*

This is undoubtedly a valuable remedial measure, and will, perhaps, effect as much and succeed as often as any single means that we have. The slight irritation of the rectum produced by the stimulus of the salt, exerts a powerful derivative tendency in calming the excitement of the stomach, and I have very often witnessed its beneficial effects in adults as well as children. I have also derived great and marked advantage from *hot* fomentations to the epigastric region of spirits of camphor and laudanum, in the proportion of three parts of the former to one of the latter. It is important that the liquid should be as warm as the patient can well bear,* and the cloths should be frequently renewed. A strong infusion of hops, with or without laudanum, applied in the same way, will also generally answer an admirable purpose. If these remedies fail, I resort to the mustard plaster, made wholly of mustard and warm water or vinegar, without any admixture of flour or corn meal; to be kept on until considerable redness of the skin is manifest. This is a prompt, and generally a powerful remedy. Simultaneously with these means, I almost invariably direct frictions to the lower extremities (if they be cold and pallid as they usually are) with warm dry flannel, or warm brandy, with a little mustard or cayenne pepper mixed in it. These should be perseveringly continued, until a glow is produced, if

* The physician cannot be too particular in his directions as to the mode of applying fomentations. I am perfectly satisfied, from careful inquiry and observation, that these and many similar remedies, often fail of the desired effect, and even do harm, because they are unskilfully or carelessly employed. This remark may be extended particularly to the use of injections and external frictions.

possible, on the surface, and will be found to aid materially the object in view. Indeed, this last means I almost invariably prescribe once or twice every day, throughout the progress of the disease, so long as the state of the cutaneous circulation indicates its propriety, and I am very confident that if judiciously and regularly employed, it will do very much towards equalizing the circulation, abstracting the blood from the internal organs, and diffusing it equally over the whole system—a result of vast importance in accomplishing a cure.

Whether these remedies are efficient or not in checking the vomiting, (though they very seldom fail,) I do not wait to try other means, but proceed without further delay to the* administration of what is undoubtedly our most important therapeutic agent in this disease, viz.

Calomel.—This efficient remedy is recommended to us, not only by its powerful influence over the hepatic system, in relieving its engorgement and bringing on a healthy flow of bile—but because, on account of its diminutive bulk and freedom from disagreeable taste and smell, it is much more easily administered to children, and more readily retained by the disordered stomach, than any other purgative whatever. These latter considerations alone, are sufficient to entitle it to a decided preference. But when in addition, it has been proved by the concurrent testimony of our most skilful and enlightened physicians, for nearly half a century, to be so peculiarly adapted to the state of the system as to deserve almost the title of specific, the most skeptical or timorous can hardly hesitate to administer it.

In the language of Dr. Edward Miller of New York—one of the most skilful, learned and brilliant physicians this country has ever produced, and to whom I believe, we are chiefly indebted for the introduction of this remedy in cholera infantum—"as the stomach and intestines are found to require evacuation, the most safe and unequivocal means, it is conceived, may be found in the use of calomel, accommodated in its dose to the age of the patient, and to other circumstances. As long as mere evacuation can be requisite or admissible, this medicine uncombined will prove efficacious, gentle and safe."

* Mild cases of cholera, and particularly in the forming stage, where there is merely diarrhœa, with little or no vomiting, can occasionally be broken up at once, either by the oleaginous mixture, or what I prefer, the aromatic syrup of rhubarb and tincture of opium in very minute doses. To a child fifteen months old, I generally order thirty drops of the syrup, and one drop of laudanum every three or four hours, to be continued till the discharges become less frequent and more natural. The practice of checking the evacuations at once, by full doses of laudanum and astringents, without purgation, cannot be too severely reprobated as not only injurious, but highly dangerous. The repose and relief afforded to the bowels, are but temporary and delusive. While there is great reason to apprehend a translation of the disease to the brain, producing serious inflammation of that organ, and perhaps terminating in hydrocephalus.

Great care should be taken that the dose be accurately adapted to the symptoms of the disease, and the age of the child. To a patient, a year old, it will seldom be proper to give more than a fourth or a third of a grain every hour: the medicine to be continued, till a decided change takes place in the appearance of the evacuations, which will be manifested by their becoming more copious, less frequent and of a dark brown or green colour. As soon as these alterations have been effected, we shall generally find the little sufferer much relieved—his skin becoming soft and moist—his eye brighter and his countenance indicating freedom from pain and anxiety. It may still however be necessary to continue the calomel, but the interval may be extended to two or three hours: if the symptoms seem to demand it, the same course may be pursued on the second and even on the third day, though it is seldom necessary to carry it so far.

The *mode* of administering the calomel is a matter of considerable consequence. The common method, combining it with very finely powdered white sugar and throwing it dry into the mouth, answers very well in some cases. I have often remarked, however, that where there is considerable fever, and the mouth in consequence parched and dry, the child has great difficulty in swallowing it, as there is no saliva to dissolve it, and retching and no little irritation are necessarily caused. In such cases—and indeed generally—I prefer mixing the calomel in a few drops of the syrup of rhubarb. This, when well prepared, is almost always agreeable to the child, and I am satisfied that it exerts a favourable influence on the action of the medicine, diminishing or rather removing entirely its tendency to gripe and making it more thorough and speedy in its operation.

Bleeding. Bleeding is seldom required in this complaint, and when resorted to, should be practised with circumspection and in moderation: but still there are cases, where the fever is high, the irritability of the stomach, great, or a decided determination of blood to the brain, in which the application of leeches to the abdomen or the head would be eminently useful.

Opiate Injections. Some authors recommend the administration of injections of starch and laudanum in a very early stage of the disease, even before the calomel has ceased to operate: a practice I could never bring myself to imitate, being persuaded that it must be injurious if adopted before the engorgement of the liver and intestines is relieved. After this has been accomplished and the system free from fever, I have always found them useful, when skilfully given and the laudanum in appropriate quantity—particularly at night, in order to keep the child quiet and afford him some undisturbed sleep.

Warm Bath. The warm bath is unquestionably a remedy of considerable power in cholera infantum, when judiciously directed and skilfully administered; and yet I am persuaded from a want of proper care, it as often does harm as good. Careful consideration should be given by the practitioner that

the situation of the patient demands it and very particular directions to the attendants as to the best mode of application, and then when followed by stimulating frictions we will always find it useful—softening the skin, unloading the engorged viscera and equalising the circulation. It may be employed in almost any stage of the disease, if the strength be not too much exhausted.

Blisters. Blisters to the abdomen, thighs, calves of the leg, &c., to relieve nausea and to act derivatively, are rather favourite remedies with many physicians. I seldom prescribe them for children—because, although means of decided efficacy, they so often (in spite of the utmost care) become troublesome and occasionally dangerous from excessive irritation—and because, we have a very efficient substitute in the various kinds of stimulating frictions, syrup of rhubarb, sweet spirits of nitre, &c.

After some of the more violent symptoms have been subdued or abated, and the evacuations rendered more natural by the foregoing treatment—and which amendment usually takes place in from one to three days—there will in a great many cases still remain indications of disordered action, as occasional nausea and vomiting, more or less diarrhœa, fever, &c., &c. This state of the system requires great caution on the part of the medical attendant, that he adapt his remedies to the precise situation of his patient, calomel is no longer necessary; opium and astringents would do harm. I have here for two or three years past, with very great advantage, directed a combination of the aromatic syrup of rhubarb, and sweet spirits of nitre, according to the annexed formula. ℞. syrup. rhei. aromat. spt. æther. nitras. āā ʒij; sacch. alb. ʒi; mucil. g. arabic. ℥ij; M., of which a teaspoonful every hour or two will form a dose. If there is no fever, I generally add a *small* quantity of paregoric, and if there be indications of acidity in the primæ viæ a little prepared chalk. This simple prescription, continued if necessary for two or three days, will in a great many cases, with the symptoms supposed, afford entire relief and effect a speedy cure. The rhubarb being slightly astringent and the nitre diaphoretic, form precisely the compound we want. Whereas if we should prescribe the more powerful astringents combined with laudanum, we might arrest the diarrhœa more rapidly, but in nine cases out of ten, we should thereby bring on fever with probably irritation, perhaps inflammation, of the brain—or else, the diarrhœa would soon return with increased violence and be more difficult than ever to control.

Sugar of Lead and Dover's powder. Where the diarrhœa proves obstinate—not yielding to the above prescription and especially where it assumes a chronic form, I do not believe there is a more efficient remedy in the whole Materia Medica, than sugar of lead and Dover's powder in doses carefully proportioned to the age and condition of the patient. If there is much fever or irritability of the stomach, neither would of course be proper. I give this combination in those cases where the more powerful astringents as

kino, catechu, &c., are usually administered, and after a very careful comparative estimate of the powers of the two classes of articles, and feel very confident that in a vast majority of instances, where any thing of the kind is proper, that the lead and Dover's powder will act more kindly and efficiently than any thing else. The dose should be very small and its effects carefully watched, and the apothecary should be particular to mix the ingredients thoroughly and divide them accurately. For a child eighteen months I usually prescribe the following formula: ℞. sup. acet. plumb. gr. iv; pulv. Dover. gr. i. Ft. pulv. No xij; one of which may be given every hour, or every second or third hour, according to the urgency of the symptoms and the effects of the medicine. My objection to kino and catechu is, that they almost invariably produce straining and tenesmus, diminishing the quantity of the evacuations, but not their number. They frequently act beneficially in the diarrhœa of adults, but in that of children, I am satisfied they should seldom if ever be used.

In the treatment of cholera infantum, I place my chief reliance on the above remedies, variously modified and combined to suit the endless varieties of constitution and symptoms. There are, however, various useful adjuvants in the management of bad cases which should not be overlooked. Among these may be enumerated, the chalk julep—gum arabic water—flaxseed tea—infusion of slippery elm bark—lime water—balsam of copaiva—spirits of turpentine—charcoal mixed in mucilage of gum arabic, &c., &c. Some of these articles will aid much in effecting a cure, When the stools are slimy and the mucous tissue of the bowels much disordered, I have derived great advantage from the spirits of turpentine, in doses of five to fifteen drops several times a day. The balsam of copaiva will answer the same indications very well. Mucilaginous drinks should always be at hand for the child when thirsty. Gum arabic, and slippery elm bark make as good as any.

In the chronic form of the disease, where the discharges seem to be kept up by habit or mere debility, tonics will be highly useful. A great variety have been recommended and all of them are probably beneficial. I seldom employ any but quinine and the chalybeate preparations. These are readily taken and answer every indication. The quinine may be given in powder or solution, the minuteness of the dose being a great recommendation. In prescribing the preparations of iron, I use either the mistur. ferri compos., or the following formula of Dr. Chapman. ℞. sal. martis gr. ij; acid. sulphur. gtt. x; sach. alb. ʒi; aq. font. ℥i; of which a dose is one drachm, repeated *pro re nata.*

Flatulency is often a very troublesome symptom, when the disease has continued a long time. Most of the ordinary aromatics and carminatives will give some relief, though I prefer the anise seed tea, or small quantities of the volatile alkali in cinnamon water. This latter prescription has seldom failed in my hands.

One great difficulty we have to contend with in the treatment of the sequelæ of cholera infantum, is the constant tendency of the patient to relapse. He may be relieved or cured of one attack, and in two or three weeks, perhaps, he will be seized again; and this may occur time after time, till the patience of the friends, and perhaps of the physician, is completely exhausted; they despair of final success and allow the disease to take its course, which consequently soon terminates in death. This is a very erroneous view of the proper power of remedial treatment, and I have no doubt, that many a life has been sacrificed to it, which might readily have been saved, by again recurring to the same or similar remedies, which were successful in the first instance. As soon as a relapse takes place, not an hour should be lost, but immediate means adopted to check and control it. As a general rule, if the healthy interval has been short, calomel will not be needed. After giving a single dose of castor oil, syrup of rhubarb or magnesia, we may resort to some of the remedies recommended in the former part of this article. And this course should be persevered in, as long as the relapses recur, or the complaint continues. I have repeatedly seen children attacked from six to ten times in one season, and yet carried safely through them all, while there is every reason to suppose, that, if the parents had yielded to the too prevalent notion that medicine was of no avail after the first or second attack, they would soon have paid the forfeit of so mistaken a notion. We should, therefore, never intermit our efforts as long as life continues—and there is no disease, perhaps, in which perseverance and patience are so often rewarded by success as this. Great care should of course be taken to adapt our remedies to the debilitated and altered condition of our little patients.

Diet. If the child has not been weaned, and the mother has an abundance of wholesome milk, little else is needed, or should be allowed in the way of food, during the whole progress of the disease. The mucilaginous drinks before referred to may be given to quench thirst and amuse the patient, but beyond these, the less they take as a generul rule the better. Where the child is weaned, however, or the supply of milk is scanty, or its quality impaired, it will be necessary to resort to other articles of food—which should always be prescribed by the physician himself, and not left to the whims and caprices of the nurse, as unless this part of our duty is carefully and faithfully attended to, every thing else will be of little avail. The farinaceous articles, as arrow-root, sago, tapioca, barley, rice, &c. with milk and sweetened with loaf sugar, should be directed. These, with or without a little spice, will afford a sufficient variety, and can be made very palatable to the fickle appetite of the little patient. Occasionally, in cases of long standing, benefit has been derived from allowing a small piece of ham or salt fish.

Great care should be taken of the child's dress, that it be made of proper materials and that it be not capriciously changed from thick to thinner articles so as to incur the risk of checking perspiration and causing a chill.

A flannel shirt, made to fit pretty tightly and to cover the whole abdomen, should be worn for the first two years without intermission. If it be oppressively warm, it may be of a light kind for summer. This, with long woollen or worsted stockings, will constitute the most important article of dress, and will guard pretty effectually against sudden vicissitudes of temperature, whatever else may be worn.

ARTICLE VI. *Report of Cases Treated in the Baltimore Almshouse Hospital.* By SAMUEL ANNAN, M. D., Senior Physician to the Institution.

DYSENTERY. This disease did not entirely disappear until the beginning of winter. Since that time no new cases have been presented; and the obstinate diarrhœa which succeeded the acute attack, in a few instances, has either been cured, or the cases have terminated fatally. The plan of treatment mentioned in my former report, was attended by the happiest results, in all the cases which were seen early. The relief from the most distressing symptoms was immediate; and a perfect cure speedily followed. My subsequent experience, and the condition of the mucous membrane of the colon, as seen in several cases, on examination after death, have brought me to the conclusion, that this mode of treatment, which answers so admirably in the early stages, must be materially modified, or totally changed, in order to suit the more advanced periods of this painful and dangerous disease.

Dysentery is known to be an inflammation of the colon and rectum, occasionally extending a short distance into the small intestines. This inflammation, sooner or later, according to its greater or less degree of intensity, produces softening and ulceration of the mucous membrane, its primary seat. Sphacelus, denoted by blackness or lividity, and softness of this membrane, the muscular coat occasionally partaking of this softness, is a less frequent occurrence. Where the disease has existed for any length of time, extensive ulceration, with softening of those portions of the mucous membrane, not destroyed by the ulcers, is the common appearance. The extent to which this ulceration sometimes proceeds, before life is destroyed, is very surprising. I have seen the greatest part of the rectum and colon, almost one continued ulcer, portions of the lining membrane in a state of red fungous elevation, being interposed here and there; by which the ulcerated spaces were separated from each other.

From this statement of the morbid appearances, it is manifest, that when the disease has advanced so far, that disorganization of the mucous membrane has taken place, it is worse than folly to attempt to cure it by the administration of even the mildest cathartics. If softening and ulceration

exist, the period has gone by, at which we might expect to afford relief, by gently stimulating the diseased membrane, in order to make it deplete itself, by augmenting its secretion, and thus remove the engorgement from its distended vessels. The vitality of these engorged vessels has, by this time, been impaired to that degree, that they cannot be excited to a secretory effort, the effect of which would be, a tendency towards a restoration to healthful action. Stimulation will now only increase the morbid action, and hasten, or extend the ulceration. Calomel and opium, and large doses of castor oil, are therefore inadmissible. Instead of allaying the irritation, diminishing the pain, and causing the patient to feel more comfortable; after the effect of the opium goes off, the symptoms will be aggravated; the soreness and tenderness of the abdomen, will be increased; the tormina and tenesmus rendered more harassing. This is the state of things, which has brought laxatives into disrepute. Their reiterated administration has only served to make the patient worse, and it has in consequence been inferred, that they are always injurious.

It is impossible to specify any particular time, at which the changes of the mucous membrane, of which I have spoken, take place. So much depends upon the violence of the disease, and the strength of the patient to resist. This general rule, however, may be laid down, viz, that the longer the time which has elapsed from the commencement of the attack, the greater is the risk from the exhibition of large doses of purgative medicine, and the greater the necessity for other modes of depletion, proportioned to the strength of the patient. It should also be remembered, that the case may not be seen, until the strength has been so much exhausted, that depletion of every kind, may be altogether inapplicable. Such cases will generally have a fatal termination. In a few instances, under careful management, they nevertheless recover. An intractable diarrhœa continues until the ulcers cicatrize, and the tender parts regain their healthful condition.

In the treatment of dysentery of several days standing; where the attack has been violent from the beginning, and the sufferings of the patient are great, blood letting, both general and local, is plainly indicated. We have a dangerous inflammation to manage, which is threatening disorganization of an important part of the organism; and our most powerful remedies should be employed, with an energy proportioned to the strength of the patient, and the character of the disease. Blood should be abstracted copiously from the arm, and cups or leeches, applied along the course of the colon, in the right and left iliac and lumbar regions, if it is thought the patient cannot well bear a repetition of the general bleeding. In robust persons local bleeding does little or no good, prior to the effectual subjugation of the vigorous action of the heart, by taking from the whole system. Where the patient will bear the loss of from twenty-four to thirty-two ounces of blood from the arm, local bleeding is not immediately necessary,

and may be reserved for a subsequent period. The next inquiry is, what should follow the bleeding? If too long a time has not elapsed, I am satisfied, that a full dose of calomel and opium, followed by castor oil and Dover's powder, as formerly recommended, is preferable to all other remedies. But it will be asked, what is too long a time? I can only reply, that I have thus treated persons, who had been as ill as they apparently could well be, for seven or eight days, and nothing done during all this time, with the effect of immediate relief, and final recovery. In some cases, one bleeding was all that was required; in others, two were requisite, the second being prescribed, one, two, or three days after the first. Occasionally cups were employed after the first bleeding. As we cannot specify the precise period when free purging becomes inadmissible, I apprehend we may come pretty near the true state of the case, by attending to the following circumstances.

If the patient has been ill during two or three weeks and is greatly reduced, it is plain enough, that the time for active treatment has passed. If on the other hand, he has been ill but a few days, and still retains considerable strength, bleeding and purging should be tried, and if relief of some permanency is procured, we may be encouraged to persevere in the purging plan. But if there is a speedy and perpetual recurrence of the tormina and tenesmus, as soon as the effect of the opium disappears, and along with this, there is an increase of the soreness and tenderness of the abdomen, along the course of the colon, it is obvious our remedies are doing harm, and a different and milder course must be adopted. In this state of things, the proper remedies are emollient and anodyne injections, fomentations and blisters to the abdomen, an occasional warm bath, at the temperature of 100°, Dover's powder to allay irritation and determine to the surface, with small doses of castor oil combined with laudanum, to carry off the acrid contents of the bowels. The best effects not unfrequently follow the administration of one or two teaspoonfuls of castor oil, with twenty drops of laudanum, night and morning. If the tenesmus should now and then become more troublesome under this treatment, an ounce of the oil, with fifty drops of laudanum, will give ease, and the small doses may then be continued. Even where there was ulceration, as far as I could judge, my patients always felt relieved by two or three pretty free evacuations, by castor oil. It is so much less irritating than the acrid secretions, that it is by comparison soothing and emollient. When the disease has become decidedly chronic, we must have recourse to the remedies of which I spoke in my former paper.

Pleurisy. Several cases of acute pleurisy have been admitted, through the course of the winter. They were all treated on a plan somewhat different from that usually practised, and with success, although the disease had existed, in every instance, from two or three days, to two weeks. To bleed with an unsparing hand from a large orifice, and in the manner best

calculated to make the speediest impression on the system, is the invariable recommendation of the best writers. If one bleeding fails to afford very decided relief, we are advised to repeat it in a few hours, and to resort to the operation again, at more or less distant intervals, according to the urgency of the symptoms, and the capability of our patient to bear further loss of blood. The general rule, adopted by some practitioners, as to the limits to which sanguineous depletion should be carried, is deduced from the strength of the patient, and the relief of the pain and irritability of taking in a full inspiration. In conjunction with the general bleedings, cups and leeches are to be applied to the affected side. This course of blood-letting, combined with purgatives, diaphoretics, diuretics, sedatives and mercury, occupies several days, and when the patient is thought to be in a poper state of preparation, the fever being sufficiently reduced, or in other words, brought down to the blistering point, blisters are directed to be applied over the seat of pain.

The plan which I have followed during a number of years, and in no instance has it failed of effecting a speedy cure, differs from the foregoing in the following particulars, viz: immediately after a free bleeding from the arm, a blister is applied to the side, and half a grain, or if that nauseates too much, a quarter of a grain of tartrate of antimony is given every two hours. Fifteen or twenty grains of calomel, combined with five or six of pulvis antimonialis, are given at bed time; and if the bowels are not acted upon two or three times, pretty freely, against morning, a moderate dose of Epsom salts, or castor oil is exhibited. After the purgatives have operated, recourse is again had to the antimony. The second night at bed time, ten or twelve grains of Dover's powder are given and repeated every night, and in the morning the antimony is resumed. In three, or four, or five days, the antimony may be discontinued, or the dose very much diminished. In very few cases have I found it necessary to repeat the bleeding from the arm, and cups and leeches have not been employed at all, neither is any other medicine for the most part required; inasmuch as the antimony generally keeps the bowels sufficiently open.

The objection which I suppose lies againt the practice of postponing the application of the blister until the patient shall have been repeatedly bled, cupped and leeched, is, that although the first bleeding, by abstracting a certain portion of the circulating fluid, and reducing the action of the heart relieves the congestion of the affected vessels, and diminishes or entirely removes the pain, as the blood-vessels soon fill up again, and the heart recovers in a great degree its former power and force of action, lessened somewhat, it is true, by the blood being of a less stimulating quality from the increased quantity of serum it contains, the vessels of the inflamed pleura are distended afresh, and the pain, and fever which arise from it are renewed, of course accompanied by the dyspnœa. In this way the symptoms dis-

appear and reappear alternately, in greater or less degree, until the patient is so much reduced that there is not force enough in the heart's action to cause a return of the distension of the inflamed vessels. When bleeding is carried to this extent, the disease is subdued, and a blister is of comparatively little service. The patient will now get well under mild treatment, as fast as he can recover from the debility produced by the remedies.

But suppose the blister is applied immediately after the first bleeding, before the excitement has time to return with its former force, we have all the benefits of counter-irritation from this remedy; a new inflammation has been set up on the surface, directly opposite the principal seat of the original disease; arterial and nervous action are determined towards this part; and, as a necessary consequence, if the doctrine of counter-irritation is good for any thing, there is diminished action inside. The new disease draws off the morbid action from the old one, and the symptoms of pleurisy do not re-appear. Or it may be said, that the external stimulation rouses the latent powers of the vessels of the inflamed pleura, and they do not suffer themselves to be again dilated so as to cause pain. Whatever theory of counter-irritation we may adopt, there is no doubt of the fact, that the disease of the skin produced by a blister, does diminish internal inflammation. This is universally admitted; and the only question now at issue, is as to the time of applying it.

The objection brought against the early application is, that there is great danger that the irritation of the blister itself may increase the fever, to a degree which will more than counterbalance the good that might otherwise result from its remedial virtues. That the increase of the general excitement may augment, in place of lessening the local disease. This is a question of fact, which can only be settled by observation. I can only say that I have not found this to happen. On the contrary, the reverse has constantly occurred. The pain, the dyspnœa, the cough and the fever have all been diminished, and the patient has invariably expressed himself as being better. This, indeed, is what we might expect from sound physiological and pathological views of the subject. For, although it must be admitted that blisters are irritants, and if applied in a healthful condition of the system, would cause more or less fever; it is, notwithstanding, a fact, that where a much more intense irritation exists internally, as in the cases of pleurisy and peritonitis, the heart, through the medium of the nervous system, does not feel the irritation of the skin; but this inflammation, when compared with the more severe pleuritic affections, is as nothing; and in proportion as it relieves the symptoms of the diseased pleura, will it act as an anodyne, and allay morbid excitement; or, in other words, diminish fever. It is on this principle we explain the fact, that our patients will sometimes sleep during the whole time a blister is drawing; which, in many instances, is the first sleep they have had during several days and nights.

Case. Laceration of Urethra—Abscess of Leg—Phlebitis.—J. A——, ætat. 30, full and muscular, was admitted into the Alms-House Hospital, November 19th, 1838, in consequence of injury sustained by a fall, from no great height; but having come down astride of a board, the perineum received the whole force of his weight, and being a large heavy man, there was considerable contusion. On the afternoon of the same day, he was admitted, and I found him complaining of great pain in the perineum, with difficulty of passing his urine, which came away in small quantity, accompanied by a good deal of blood. The bladder could be plainly felt above the pubes, and was painful on pressure. There was no external wound, but the scrotum and perineum were black from ecchymosis. I attempted to introduce the catheter, intending to leave one of gum elastic in the bladder; being apprehensive from the injury done to the urethra, that there would be infiltration of urine into the scrotum and perineum. The instrument could not be passed farther than the membranous portion of the urethra, although different sizes were employed. Blood flowed freely from the penis during the trials; and what was much more gratifying, urine came away in sufficient quantity to relieve the bladder. Fomentations were applied to the perineum; the bowels opened with a laxative; and rest enjoined. I fully expected infiltration of urine, with a return of the retention; and that I should have to make free incisions into the scrotum and perineum, to allow the escape of the urine, and prevent extensive sloughing; and also to open a passage into the bladder, along the course of the urethra, from the perineum. Contrary to my expectations, there was no farther accumulation of urine in the bladder; neither was there any infiltration. The urine passed off by the urethra, as soon as the bladder was moderately full; some blood being also voided during several days; and each micturition being attended by excruciating pain. The pain, however, in a few days moderated, and then disappeared altogether. The discharge of blood ceased, the urine flowed freely, and I thought my patient was in a fair way to recover. The ecchymosis of the perineum and scrotum continued longer. I now came to the conclusion, that the urethra had not been lacerated, but simply contused; as I did not recollect any case of laceration of that tube, unaccompanied by infiltration of urine into the surrounding cellular structure.

About a week after the reception of the injury, a new symptom presented itself, viz: swelling and pain of the calf of the right leg; and in about another week, the left ankle also became painful and tumid. The swelling extended in the course of a few days, to the feet, which became œdematous and greatly distended. The right leg, as far up as the knee, also became œdematous. The pain was excruciating; and the skin, at first, was slightly reddened, especially that of the left ankle. Various applications were made to the inflamed parts. Emollient poultices were first tried; but as they gave no relief, they were soon exchanged for cooling lotions. White wash and spirit wash were applied, by means of cloths kept constantly wet with them. The former is the liquor plumbi subacetatis solutus, of Wood and Bache's Dispensatory. The latter consisted simply of water, and a small portion of proof spirit, to make the evaporation more rapid. These mitigated the pain but little, and the parts were then enveloped with cloths kept constantly wet with water as warm as could be borne. This gave more relief than any other application. His system had received such a shock, and the pulse was so feeble, that I did not think blood-letting admissible. He was, however, purged moderately, and low diet was prescribed.

No cause could be assigned for the inflammatory affection of the two

limbs. He did not complain of any injury having been done to them, when he came into the hospital. I was therefore disposed to regard the affection as an inflammation of the cellular and ligamentous tissues, arising, in a bad condition of the organism, from the urethral irritation. The swelling of the limbs continued to increase, the skin becoming pale from the effusion of serum in the sub-cutaneous cellular tissue; and he began to complain of pain extending up the thigh, along the course of the great blood-vessels, which was greatly aggravated on pressure; particularly at the upper part of the thigh, just below Poupart's ligament. The superficial veins of the thigh were now somewhat distended. There was no general tumefaction of the thigh. He gradually became more and more debilitated; the stomach became irritable; and he finally sunk on the 24th of December.

Autopsy 24 hours after death. A large abscess containing bloody pus, was found underneath the gastrocnemii muscles of the right leg, situated between them and the deeper muscles, and occupying two thirds of the leg, midway between the ankle and knee joints. The parts of the muscles adjacent to the abscess, were completely disorganised, being reduced to a soft pulpy mass. The posterior tibial, the popliteal, and the superficial femoral veins, and their continuation up to the junction of the common iliac with the vena cava, were lined with a thick, dense, false membrane, and filled with yellow pus. All the veins of the thigh were filled with pus in the same manner. None of these veins in which pus was seen, contained blood. The anterior tibial vein was not so much diseased as the others. At the termination of the common iliac vein, in the vena cava, a considerable quantity of a more solid matter was observed, apparently consisting of a mixture of lymph and pus, which blocked up the entrance into the vena cava, and probably prevented the pus from passing on towards the heart. There were redness and thickening of the ligamentous tissues around the left ankle, and some pus was found in the joint. A small abscess had also formed at the root of the great toe of the right foot. The bladder having been taken out with the penis, and the urethra slit up, a cavity about the size of a small walnut was seen at the beginning of the membranous portion of this tube, where it joins the bulb, into which both ends opened. The external end terminated abruptly, with a considerable depression, as if the tube had been cut off, then joined to the sac, and badly fitted. The end next the bladder was united to the sac by a smooth, level surface. The interior of the sac was lined by what seemed to be a perfect mucous membrane. The viscera were normal.*

Remarks. The calf of the right leg must have been severely contused by the fall; although he made no complaint of it. The pain about the region of the bladder was so excruciating, that the injury of the leg was not felt. The bloody pus contained in the abscess, proves that there was a contusion. The left ankle must also have been sprained. There was nothing peculiar about the phlebitis. It pursued its usual course, viz. effusion of lymph, formation of false membrane, and secretion of pus. The small

[* This case is an interesting one. It affords a marked example of traumatic phlebitis terminating in purulent depots, or what is considered by some writers, secondary abscesses. Some cases of a similar character are recorded by Dr. Watson, in his valuable memoir on Secondary Abscesses, in the No. of this Journal for November, 1837.—ED.]

amount of tumefaction of the thigh, might at first view cause surprise; but when we reflect, that the passage of the blood through the veins appears to be completely interrupted in phlebitis, these vessels containing nothing but false membrane and pus; and that the arteries are but little dilatable, under the strongest action of the heart, and are diminished in diameter, in states of debility, in proportion as the weakness is greater or less; our surprise will cease. It is the dilatation of the veins, which are susceptible of a great degree of distension, which is the principal cause of swelling of parts, antecedent to effusion taking place. In phlebitis, the veins are entirely relieved from the force of the heart's contraction; therefore they cannot be subjected to congestion of blood; and if effusion does not take place into the surrounding tissues, there will be little swelling. With so complete an interception of the venous circulation, one might expect to find gangrene and sphacelus. There was not however either of these conditions observable in the thigh. The disorganization around the abscess, was manifestly the consequence of the inflammation arising from the contusion. Although this patient was too much debilitated to allow of bloodletting from the arm, if leeches had been at hand, he might perhaps have been benefitted by their application along the course of the inflamed vein; or to the leg, on the first appearance of the swelling. Still it is doubtful, whether they would have prevented suppuration.

The most remarkable part of this case is the laceration of the urethra, without infiltration of urine as the consequence. The urethra was plainly torn across, and entirely divided at the arch of the pubes; probably by being driven against the arch; and nevertheless no urine passed into the surrounding cellular tissue. As far as I remember, this is an unprecedented occurrence. The sac which was seen, must have been formed by an effusion of blood, which dilated the parts, and caused a consolidation of the cellular tissue; thus forming a cavity filled with blood. When this blood coagulated, its fibrine may have partially separated, and adhered to the surface of the cavity, and thus cemented the plates of the cellular tissue together so as to prevent the escape of the urine. Or previous to coagulation, the blood may have filled the interstices of the cellular tissue, so that when coagulation took place, the urine could not find a passage. However we may explain it, the fact is unquestionable; and the wonderful resources of the system, are well exemplified, in the reparation of the damages.

Dysentery—Chronic Arachnitis—Chronic Gastritis—Malformation of the Genital Organs. G. W. ætat. 32, an idiot, was admitted into the Alms House on the 3d of July; and shortly afterwards attacked by dysentery, which became chronic; and he gradually wasted away under a diarrhœa; which was not however very severe, but could not be entirely checked, and was occasionally aggravated without apparent cause. He complained of pain and soreness of the lower part of the abdomen, for which he was cupped and blistered, with partial and temporary relief. He died December 18th 1838.

Autopsy 36 hours after death. Brain. There was considerable thickening and consolidation of the arachnoid membrane, covering both hemispheres of the cerebrum. The entire membrane was pulled off without laceration, the processes of pia mater, which pass between the convolutions, coming out readily with it. After washing in clean water, it was held up to the light, and exhibited the usual transparency; but was firm and unyielding, and considerable force was required to tear it into fragments. It did not appear to be changed from the normal condition, on the base of the cerebrum; but on the inferior part of the cerebellum where it passes from the medulla oblongata, it was thickened; and underneath this part there was a small quantity of sero-gelatinous effusion. The cortical part of the cerebrum did not present any thing remarkable. The convolutions were of the usual depth and shape. Mr. Reynolds, one of the students of the house, was disposed to think the convolutions deeper than is common, There was some congestion of the medullary matter. Red points were numerous when it was sliced; and the veins of the lateral ventricles, on the surfaces of the thalami, and in the posterior and inferior horns of the ventricles, were greatly distended with blood. The plexus choroides was not much congested. The septum lucidum, the fornix, and the surfaces of the thalami, were slightly softened. No morbid change was observed in the cerebellum.

Thorax. The right lung was healthy. Two thirds of the upper lobe of the left lung, adjacent to its junction with the lower lobe, were in a state of splenization having become as solid as a piece of liver; and presented a smooth red surface, when cut into, without the smallest appearance of granulation. There were no adhesions of the pleuræ, on either side.

Abdomen. The stomach, over the whole interior, was of the colour of slate, perhaps not quite so dark a blue; and on stretching it, red vessels were observed underneath the blue surface, forming a red ground. The mucous coat was softened, and when scraped, both the blue and the red colours came off, leaving the whitish muscular coat bare. There was no ulceration of either the small or large intestines. The lower part of the ilium for about ten or twelve inches in extent, was of a dark mahogany colour; and the mucous coat could be scraped off in the form of a red pulp. Spots of red softening were seen in the caput cœcum and ascending colon; and in the sigmoid flexure and upper part of the rectum, there were numerous small tumours of a dark blue colour, the longest one-third of an inch in diameter, formed in the mucous coat, and resembling punctated melanosis. The liver was normal as to size, but was of a dark purple colour, both externally and internally; the yellow medullary matter having entirely disappeared.

Genitals. These organs presented-an extraordinary malformation. Both of the testicles, of the normal size and feel, were contained in one tunica vaginalis, viz, that of the right side. They lay with what is commonly their anterior surfaces, directed towards each other; and were bound together by three or four bands passing off from their serous surfaces. The epidydimis of the right testicle looked towards the right thigh; that of the left towards the left thigh. Two *vasa deferentia* were given off, one from each epididymis, and were traced into the pelvis, through the external ring, down to the bladder. These tubes were normal. In addition to them, there was a third tube, of much larger size, along its entire course from the testicles, being fully as large, or larger than the biggest goose quill, which passes out from between the two testicles, communicating with the *tubuli seminiferi* of both, as was proved by injecting these tubuli with quicksilver through it, and by it containing serum from one end to the other, and ter-

minated in the urethra of the apex of the prostate gland, viz, at the *caput gallinaginis*. About three or four inches from its termination it expanded, so as to be more than an inch in circumference internally; but it again contracted, so as to enter the urethra by a small opening. The two *vasa deferentia*, when about entering the abdomen through the external ring, attached themselves to the sides of this tube, and accompanied it to its entrance into the urethra, and opened into it, in the substance of the prostate gland. No *vesiculæ seminales*, diverging from the base of the prostate, were to be seen. This long tube appears to have been substituted for them. The coats of this tube were apparently the same, as those of the seminal vesicles, in other cases. After the entrance of the three ducts into the abdomen, they were nearly surrounded by the peritoneum; and also by a dense cellular coating; all of which formed a large cord, passing down into the pelvis. The external and internal abdominal rings appeared to be united into one, by the inner ring being drawn towards the tubercle of the pelvis. The spermatic cord consequently passed straight into the abdomen, there being no oblique canal. The ring was open, and there was a hernial sac, separated from the testicles by a thin cellular partition. This partition was covered on one side by the tunica vaginalis testis; and on the other by the peritoneum. The sac contained a portion of the ilium, which was early reduced, not having formed any attachments.

There was but one artery going down to the testicles; but it was about twice the size of the spermatic artery in ordinary cases; and it arose from the internal iliac, about an inch and a half, or two inches from the bifurcation of the common iliac artery. On the left side, an artery of not much smaller diameter, arose from the internal iliac, at the corresponding point; but instead of going out of the abdomen, through the rings, it ran forwards and upwards and terminated abruptly on the rectus abdominis muscle. The right spermatic vein originated from a large cluster of veins, in conjunction with the left, which cluster lay between the vasa deferentia, at the top of the testicles. The two veins continued together until they entered the abdomen, and then separated. The vein of the right side took the usual course upon the psoas muscle, and terminated in the vena cava. That of the left side was carried across the pelvis by a curious bridge which remains to be described. The fundus of the bladder did not pass forwards to the crest of the pubes, by about two inches, Just at the top of the bladder, there was a duplicature of the peritoneum, two and a half inches wide at the symphysis pubis, which stretched from one side of the pelvis to the other, and was attached to the psoæ muscles and brims of the pelvis on each side, thus forming a complete bridge across the cavity. Along the upper edge of this fold of the peritoneum, between the two layers, the left spermatic vein passed from the right abdominal ring to the left side, ran upwards upon the psoas muscle, and terminated in the splenic vein. The penis was of the largest size and well formed. The opening of the external muscle of the left side, which forms the external ring, was normal.

Remarks. It is an established fact in embryology, that the testicles, up to the beginning of the seventh month of utero-gestation, are situated in the abdomen below the kidneys, one on each side of the spinal column, and occupy all the inner face of the ossa ilia. About the end of the eighth month they pass through the external abdominal rings; and towards the termination of the ninth month, are usually found in the scrotum. Now according to the

Centripetal Theory of Development, of M. Serres, the very young embryo consists of two halves, separated by a line of division, through the centre of the spinal column, and by the coalescence of these two portions, the perfect fœtus is formed. Where the organs are double after birth, each lateral half forms its own; and where they are single, as in the cases of the scrotum and penis, the two lateral halves, which are developed apart from each other, unite along the mesial line. These being admitted facts, the question arises, whether in the case above narrated, the two testicles, in opposition to the ordinary law of developements, were originally formed on the right side; or did the left one, during the progress of embryotic existence, and subsequently to the junction of the two lateral halves, pass over to the right side? If one of the spermatic veins had got crossed over to the left side, I should be inclined to adopt the first conjecture. This division of the blood-vessels, the artery going off from the right, and one of the veins terminating on the left side, makes it impossible to decide as to the original portion of the left testicle. The junction of the left spermatic vein with the splenic vein is also uncommon. The connection of the vasa deferentia, and likewise of a large central tube, with the tubuli seminiferi is, I suspect, unprecedented.

There is nothing in this case, as far as the structural condition of the cortical part of the brain is concerned, to favour the theory of M. Foville and Pinel Grandchamp. They have conjectured, that the cortical substance is the seat of intelligence, whilst the medullary is intended to preside over motion. They think they have discovered, that in cases of imbecility, the convolutions are small, and the cortical substance is reduced to a very thin layer. Neither the one nor the other was observed in the above case. It may nevertheless have been, that the functional disturbance produced by the chronic arachnitis, was sufficient to have caused the imbecility of mind.

Hemiplegia—Dysentery—Mental Aberration. G. W., ætat. 50, an old sailor, of intemperate habits, has been an inmate of the Alms House since 1832. When first admitted was affected with hemiplegia of the left side. In walking his left leg was dragged along with difficulty; and was made to describe part of a circle; and he had very imperfect use of his left arm. His mind also was impaired, so that he was considered partially insane. He was extremely irritable, cross, and snappish; and ready to strike with the stick he used in walking, regardless of rank, any person who provoked him. He appeared to know what he was doing, and to understand what was said to him; but seemed to be incapable of self-control.

In the beginning of November he was attacked slightly with dysentery, which he suffered to run on without complaining, and it settled down into an intractable diarrhœa. He now became so offensive, from inability to restrain the discharges, that the attention of the head of the ward was attracted, and his case mentioned. The account the patient gave of his situation, was so confused that I could make nothing out of it; but the constant fæcal discharges in bed, showed plainly the nature of the disease. Various remedies were prescribed; some of which he took, and others he refused. Two

or three times he seemed to be getting better; but he again relapsed to his former state; and he died on the 26th of December, 1838.

Autopsy. Brain. After removing the top of the cranium, on attempting to take off the dura mater, strong adhesions were found between the two surfaces of the arachnoid membrane; not only along the central margin of the right hemisphere, but also over the whole surface of the middle lobe of the right side. In the efforts to get the dura mater off, the arachnoid came away from the middle lobe, bringing with it the processes of pia mater from between the convolutions, and also portions of the cortical substance of the brain; which was found to consist of a soft pulpy matter, not changed in colour. On examination the whole of the middle lobe of the right hemisphere, with about half of the anterior and posterior lobes of the same side, were likewise found to be of the consistence of a soft pulp; so that on trying to lift a portion of it with the fingers, it tore asunder, showing it to be destitute of its usual adhesive properties. Both the medullary and cineritious matter were in this condition. The great mass of the left hemisphere was as firm and solid as when there is no disease of the brain, but the surfaces of the corpus striatum and thalamus of this side were slightly softened; as were also the septum lucidum, the fornix and corpus callosum. The last less so than the other two. There was an ounce or two of serum in the lateral ventricles, and a small portion under the arachnoid of the right hemisphere. The cerebellum was somewhat softened, but not in so great a degree as the cerebrum. The cineritious portion was here much softer than the medullary, and the left side was perhaps a little more altered than the right. The medulla oblongata and upper part of the spinal cord were normal.

Abdomen. There was red softening of the mucous coat of a portion of the middle and back part of the stomach; and the pyloric extremity was of a slate colour and softened. The colon and rectum exhibited marks of acute inflammation. There was red softening and ulceration of the mucous coat. The ulceration was not so extensive as is frequently observed; but was quite sufficient to account for the death of one with a constitution as much impaired as his was. The liver was of a dark purple colour; and nearly all the yellow medullary matter had disappeared.

Genitals. The testicles on examination showed the two surfaces of the *tunica vaginalis* of both sides, adherent over their whole extent. There was no other disease of the right one. It was perhaps rather smaller than usual. The left was manifestly in a state of atrophy. It was much smaller than the right. When cut into, but a small number of the tubuli seminiferi, could be seen between the anterior surface of the organ and the epididymis.

Remarks. The disease of the brain was amply sufficient to account for the hemiplegia and mental disturbance. M. Foville informs us, that in acute cases of madness, he has never observed adhesions of the membranes to the cortical substance, but that such adhesions are very frequent in chronic cases. This he imagines will explain the curable nature of recent maniacal affections, and the hopeless and incurable state of those who have long laboured under madness or dementia.

A large majority of those who die in this institution have been long addicted to habits of intemperance; and in every instance more or less of the effects of chronic gastritis is discovered. According to M. Andral the shades of colour which principally belong to this disease, are the gray slate

colour, the brown colour, and the more or less deep black colour. These discolourations, with preternatural redness, and thickening and softening of the mucous membrane, are the common morbid appearances.

The adhesion of the two surfaces of the tunica vaginalis testis indicated the previous existence of inflammation. Those pathologists who believe in a close sympathetic connection between the cerebellum and the testicles, would ascribe atrophy of the left testis to the morbid state of the left hemisphere of the cerebellum. I do not think that this connection is as yet sufficiently established to justify such an inference. Neither is it necessary in the present case. The evidences of previous inflammation would satisfactorily account for all the morbid appearances.

Apoplexy—Palsy. S. P., ætat. 30; habits intemperate; admitted May 12th, 1838. Three days ago, while intoxicated, he fell down in a fit, and remained in a state of insensibility for two hours. On regaining his senses, he found his right side partially paralysed. He can drag his leg along with some difficulty, and move his arm in an imperfect manner. Has no pain. Functions natural. He was bled, purged, and blistered on the back of the neck; and in four or five weeks was sent out of the hospital, still limping a little. Three months after, he was attacked with enteritis, for which he was bled, cupped, &c., and when in a state of convalescence, he was suddenly seized with a chill, to which fever succeeded. He now lost all power of voluntary motion; his speech was embarrassed, and his fæces and urine passed involuntarily. He was cupped, blistered, and purged; and became greatly emaciated and debilitated. Sloughs made their appearance on the sacrum, and right ear. His teeth and lips were covered with sordes. Pulse small and feeble, and his appetite gone. By degrees these symptoms abated. His pulse became natural. The slough separated, and the ulcers healed; and his general health became pretty good. The paralysis, however, still continued unabated. About the beginning of December, he had so far recovered the power of moving the left arm as to be able to feed himself with some difficulty. He did not regain the use of his legs, and was unable to stand or walk. He also continued to pass the fæces and urine in bed; and he could not articulate so as to be understood, except by those accustomed to his mumbling and muttering, The sensibility of skin was natural, and continued so to the last. In the beginning of January, 1839, his remaining strength began to fail, and he died on the 21st of that month.

Autopsy. The brain alone examined. There was slight opalescence of the arachnoid, and a small quantity of serum effused underneath it. The ventricles contained about an ounce of clear serum. There were a few hydatids in the choroid plexus. The left optic thalamus presented in its central part, two cavities, each half an inch in length, by three lines in breadth. They were at the distance of half an inch from each other. Their walls were of a dirty yellow colour, and soft. The softness and discolouration, did not extend more than two thirds of a line into the substance of the brain. The right optic thalamus, about its centre, also contained a cavity, about as large as a cherry stone, similar in every respect to those just mentioned. The pons varolii, when opened through its centre, exhibited a fourth cavity, half an inch long, and three lines broad. At the point of bifurcation of the basilar artery, there was an aneurismal sac, of spherical shape, half an inch in diameter. The walls of the sac were thick-

ened by the effusion of lymph; so that when emptied of its contents, it did not collapse. Some small patches of the coats of the basilar artery were likewise thickened.

Remarks. We have in this case a well marked example of the effects of habitual drunkenness upon the brain. The constant excitement had produced disease of the arterial system, and at length vessels were ruptured, and blood effused into the left optic thalamus. The ordinary processes of absorption of the extravasated fluid, and cicatrization of the lacerated brain, took place; and imperfect restoration of the function occurred. The fever which preceded the second attack of paralysis was probably brought on by sleeping with the windows raised. Whatever may have been the cause, it was during the excitement of the hot stage, that rupture of blood vessels again took place, in the right optic thalamus, and pons varolii, producing general palsy. The energies of the system were, however, again roused, and absorption and cicatrization were a second time effected; but the recovery was now much less complete; and the vital functions were so imperfectly performed, that he at length succumbed.

The seats of all the injuries were in the course of the motor tracts, and hence motion alone was impaired. The cavity in the pons varolii occupied its anterior part, and consequently did not involve any of the fibres of sensation.

Apoplexy—Palsy. G. B., ætat. 40, of robust frame, has been an inmate of the house for the last ten or twelve years. About the time of his admission had an attack of apoplexy, which was succeeded by paralysis of the right side. He recovered so far as to be able to walk about with the assistance of a cane, and to perform various menial duties. His general health was good. On January 21st, 1839, while engaged at his ordinary work, he staggered and fell, and was brought into the hospital in the following condition. There were violent convulsions of the whole of the right side, with complete paralysis of the left side. The mouth and head were, with intervals of a few seconds, drawn spasmodically to the right side. His consciousness was perfect; but his articulation embarrassed. He complained of pain of the head. Pupils were not affected. Pulse slower than natural, and labouring. He vomited a full meal, which he had taken a short time previous to the attack.

About forty ounces of blood were taken from his arm; during the flow of which, he had an evacuation from the bowels, consisting principally of undigested beets, which he had eaten the day before. Three drops of croton oil, and a purgative enema were administered, which operated freely; and a blister was applied to the back of the neck, which also acted well. No improvement, however, followed these remedies; the symptoms became worse; and he died forty-eight hours after he was attacked.

Autopsy, twenty-eight hours after death. Brain alone examined. On removing the cranium, the sinuses of the dura mater were discovered to be very much gorged with black blood. The inner surface of the cranium, particularly along the course of the superior longitudinal sinus, was covered with drops of this fluid. The glandulæ pacchioniæ were in great number,

and largely developed. The pia mater was very much congested. There was some effusion of dark coloured blood on the summit and outer face of the left hemisphere of the cerebellum; and a small quantity along the inferior and posterior edge of the adjacent lobe of the cerebrum; all of which had apparently escaped from the fourth ventricle. When the brain was sliced, and the drops of blood which oozed from the vessels scraped off with the back of the scalpel, the open mouths of the vessel were very distinct. Both of the lateral ventricles were distended by clotted blood; more fluid, however, in the left than in the right. The right ventricle contained a clot as large as a guinea fowl's egg; and also masses of pulpy brain, coloured and broken up by an admixture with the blood. The posterior third of the corpus striatum, and the whole of the optic thalamus of this side, were completely disorganized by an effusion of blood which appeared to have taken place from the latter. The walls of the cavity formed by the hæmorrhage were red and softened, to the depth of two or three lines. Where the brain was yet firm around the cavity, in its immediate vicinity, there were numerous black spots, as large as pins' heads, caused by extravasated blood. No vessels were visible. The greater part of the blood in the left lateral ventricle was fluid. The septum lucidum was ruptured in two places; near its anterior part, and at its middle; and a free communication was thus formed between the two ventricles. At the anterior part of the optic thalamus of the left side, just at its junction with the corpus striatum, there was a cavity about six lines in length, and from two to three lines deep, evidently the consequence of the former effusion of blood. It was lined by a firm, rugose membrane of cellular tissue, of a pink colour. There was an aperture by which it communicated with the ventricle. The substance of the brain around this cavity was much darker, and a little softer than the rest of the cerebral mass. The choroid plexus contained a large number of hydatids, some as large as a pea. That part of the optic thalamus of the right side, which forms the lateral wall of the third ventricle, was lacerated, presenting a circular opening of four lines in diameter, its edges ragged and soft, and the cavity filled with coagulated blood. The third and fourth ventricles were both distended by this fluid. The rest of the brain presented nothing remarkable.

Remarks. In this, as in the former case, there were traces of an old effusion of blood, which satisfactorily explained the first apoplectic attack. The time which intervened between this and the fatal seizure, was unusually long. Serres and Foville assert, that lesions of the corpus striatum and anterior parts of the brain are followed by paralysis of the lower extremities of the opposite side, and that lesions of the optic thalamus, or posterior parts of the cerebrum, cause paralysis of the upper extremities. The optic thalami, in both the foregoing cases, were the principal seats of injury, and the lower extremities were as much, or more affected than the upper. There was also, it is true, in the former case, effusion into the pons varolii, which renders it somewhat ambiguous, as we cannot know the precise time at which it occurred. There is, however, a strong probability that it did not take place until the second attack, when general palsy made its appearance. We can scarcely imagine it possible for effusion of blood to be made into the middle of the anterior part of the pons varolii, where the motory

fibres are concentrated into a narrow space, without general palsy being the consequence. Supposing then, that the effusion into the pons varolii occurred at the second seizure, we have the lesion of the left optic thalamus to explain the original palsy of the right side. The lower extremity was as much affected at this time, as the upper, which is in opposition to the views of Serres and Foville.

In the latter case, we have the lesion of the left optic thalamus, to account for the hemiplegia of the right side. Both leg and arm were here involved. But it may be said, that it was the anterior part of the thalamus, adjacent to the corpus striatum, which was the seat of the injury. It is impossible to tell how far the corpus striatum may have been disturbed by the pressure of the extravasated fluid, when first poured out; neither can we say with certainty, to what extent the functional action of this part remained imperfect, in consequence of the derangement of structures around the cavity, which resulted from the primary lesion. Additional facts would seem to be required to establish the supposed connection between the anterior parts of the cerebrum and the lower extremities; and the posterior portions and the upper extremities.

Syphilis—Phagedenic Ulceration—Aneurism of left internal Iliac Artery. R. C. ætat, 32, was admitted into the female syphilitic ward, September 25th 1838. On the inner side of both nymphæ there is an extensive ulceration, passing a short distance into the vagina. This ulcer has a dark, foul, unhealthy appearance. Her general health is considerably impaired, and she is much emaciated. Pulse frequent, small and feeble. Emollient fomentations were applied to the sores, and infusion of colombo, gentian, and chamomile flowers, was ordered. The ulceration, however, proceeded until both nymphæ were destroyed, as also the meatus urinarius, and the soft parts up to the clitoris. It likewise extended fully an inch into the vagina, burrowing behind the rami of the pubes and eschia on both sides, forming an immense cavity. She was now put upon extract of cicuta, of which she took five grains three times a day; and by keeping the parts clean, by frequently injecting tepid water, the ulcerative process was arrested, and healthy granulations sprung up, with every appearance of speedy cicatrization. At this time she was attacked with hæmorrhage from the left side of the ulcer, behind the rami of the pubes and ischium; at first in small quantity but recurring at intervals of a few days, and requiring the use of pressure by passing a piece of sponge into the cavity, formed by the ulcer. In this way the bleeding was easily restrained. The ulcer on the right side cicatrized, while that on the left was kept open by the occasional occurrence of the hæmorrhage. She continued in this state for four or five weeks, gradually becoming weaker, and died the 23d of November

Autopsy. Emaciation great. Both of the nymphæ are entirely destroyed. On the left side, opposite the os externum, there is a superficial ulcer, one inch wide, and extending from the posterior commissure to the mons veneris; about the centre of which, on the inner side of the rami of the pubes and ischium, there is a fistulous opening, three lines in diameter.

On opening the abdomen, a considerable quantity of coagulated blood was found in different regions of this cavity, in the hypogastric right and left

iliac, and right hypochondriac—forming, in the latter situation, a layer of four or five lines in thickness, between the convex surface of the liver, and the walls of the abdomen. The uterus is a little hypertrophied, and is pushed from its natural position, far over to the right side, by a tumour formed in its left lateral ligament, through which the effusion into the sac of the peritoneum had taken place. The tumour when opened was found to contain a mass of clotted blood, in the centre of which, there was a portion of dense, lancinated fibrine, about the size of a hen's egg. It contained a cavity an inch in diameter, which communicated above with the internal iliac artery, the coats of which, as high as the ilio-lumbar artery, were thickened, and easily lacerated. There was a sinus passing from the aneurismal tumour to the vagina; and opening on the surface of the ulcer, inside of the pubes and ischium. Most of the branches of the internal iliac were destroyed at their origin. The sciatica nerve was surrounded by indurated cellular membrane, where it passes over the short rotations of the thigh; and its roots were enveloped by coagulated blood.

Remarks. Phagedenic ulceration is one of the most dangerous and unmanageable forms of syphilitic disease. It is almost always rendered more inveterate, and more rapid in its progress, by mercury. The antiphlogistic treatment, with anodynes, to allay irritability, is unquestionably best adapted to arrest the progress of this destructive ulceration. Mr. Carmichael, in his "Essay on Venereal Diseases," has given us the best treatise on this subject. Absolute rest in the recumbent position; venesection in proportion to the extent of the pain, inflammation, and symptomatic fever; antimonials in sufficient doses to nauseate; warm poultices of bread and water; warm fomentations, either in the form of stupe, or injected between the prepuce and glans; opium, hyoscyamus, and cicuta, in sufficient doses, to lessen pain and irritation, and procure rest at night, are the means he relies upon during the inflammatory and active stage. Afterwards when it excites but little uneasiness, and creeps slowly along, healing in one place while ulcerating in another, the solution of nitrate of silver, in the proportion of one, two, or three grains to an ounce of distilled water, he tells us, may be of service; or the mercurial black, or yellow washes agree well in some cases, while in others, it must be admitted, that no application seems to check the progress of the ulcer.

Stimulating applications, he farther says, are often extremely useful to sloughing venereal ulcers, such as venice turpentine, or balsam copaiva, blended with one or two parts of olive oil, or a lotion composed of one part of tincture of myrrh, to seven of camphorated mixture. They correct the fœtor of the sloughs, and stimulate the sound parts to cast them off; but unfortunately, he admits that they have not the power of preventing their renewal.

I have never seen permanent benefit derived from stimulating applications. In one case, where the greater part of the glans penis was destroyed, they had a full and fair trial, after fomentations and poultices; and it was not until they were all discontinued, and the sore dressed with dry lint twice a day,

and washed clean with warm water, before each dressing, that healthful granulations sprung up, and cicatrization commenced. It then speedily healed.

In the case of R. C. narrated above, the debility was so great, that tonics appeared to be indicated. Her general health improved under the use of the bitter infusion, but the ulcerative process was not suspended. The cicuta, which I have employed in other cases, was manifestly of great service. I regard it as the best anodyne in these cases. The dose may be increased to ten grains of the extract three times a day, if a smaller quantity does not answer the purpose.

If the aneurismal tumour had not been present, this woman, in all probability, would have recovered. No pulsation was detected, and she made no complaint which could have led to the discovery of the aneurism. There was a dull and aching pain about the hip and down the leg, which was supposed to be rheumatic. But even if it had been known that there was aneurism, in her debilitated state it would have been worse than folly to have attempted to cure it by operation.

Pleuro-Pneumonia.—T. P., ætat. 42, admitted February 11th, 1839. Ten days ago, after exposure in a damp cellar, he was suddenly seized with severe pain of his left side, which was speedily followed by a chill, and high febrile excitement, accompanied by dyspnœa. A young physician was called in who told him he had a bad cold, and that he had seen cases terminate in pleurisy. He prescribed some powders which induced excessive catharsis. He afterwards applied a blister to the side, and then a pitch plaster. When he entered the hospital, his expression of countenance manifested great anxiety and prostration. His respiration was very much embarrassed. There was complete dulness of the left side of the chest, both in front and behind; also bronchial respiration and bronchophony, and tracheal rattle. Pulse 120, small and feeble; discharges from the bowels involuntary. A blister was applied to the chest. He died at three o'clock in the morning of the 12th of February.

Autopsy. Thorax. The whole surface of the left lung adhered firmly to the pleura costalis, and thick flakes of recently effused lymph were spread over the lower and middle portions of it. About eight ounces of serum were found in the cavity after the removal of the lung. The pleura lining the ribs and covering the diaphragm, was intensely red; and numberless minute capillary vessels carrying red blood, anastomosed freely with each other, in the sub-serous cellular tissue, and presented injected patches of various forms. The pleura pulmonalis exhibited a similar appearance. The whole of this lung, with the exception of a small portion of the anterior part, which lay next to the sternum above the base of the heart, was in the second and third stages of the effects of inflammation. The upper half of the superior lobe was hepatized. It was solid, and inelastic to the touch; was not crepitous, and when cut into yielded no bubbles of air; but when pressed, a bloody fluid exuded sparingly from it. This portion was also filled with granulations, which were very perceptible on tearing the lung; and it was likewise mottled with black pulmonary matter. The whole of the lower lobe, and the remainder of the upper lobe were in a state of purulent infiltration. The reddish, mottled appearance of the hepatized portion, was exchanged

for a yellowish drab, or stone colour, approaching to sulphur-yellow. On cutting into it, no granulations could be seen; but a yellowish, opaque purulent matter, oozed from it. The slightest pressure with the fingers made a cavity, which immediately filled with pus. The texture was extremely soft and friable. The right lung was normal.

Abdomen. The mucous coat of the stomach was red and softened over nearly the whole surface. A few patches, at different places, were of the natural colour. The duodenum was slightly reddened. The jejunum, along its whole course, was intensely red, and the mucous coat was also softened. The redness and softening were continued into the ileum; but in a diminished degree. The upper part of the colon, in the vicinity of the caput cœcum, was of a light pinkish hue, but was only in a slight degree softened.

Remarks. We here have a strongly marked instance of the defects of our system of medical education. A young man of fair talents, who had passed through a full course of medical lectures, and obtained his degree, regarded the symptoms of the above case, as indicative simply of a "bad cold;" by which it may be presumed, if he attached any precise meaning to the terms, he intended to call it a case of acute bronchitis. Acute bronchitis, however, does not terminate in pleurisy. That form of it, in which the pulmonary vesicles, and smaller bronchial tubes, are the seats of the inflammation, passes readily into pneumonia; but does not become a pleurisy. Whatever opinion may have been entertained of the pathology of the case, it is manifest from the treatment, that it was regarded as one of no great severity. No blood was abstracted; but purgatives were exhibited to the extent of producing hyper-catharsis; and after death we find a most intense jejunitis; which doubtless had been caused by the drastic cathartics. The blister not having been preceded by blood-letting, must certainly have increased the febrile excitement; and the burgundy pitch plaster, in a case of acute inflammation of the chest, was, to say the least, a strange remedy.

Now it must not be supposed that I think the blame should attach solely to the practitioner in this case. I consider the chief defect to be in the system of education, under which he obtained his degree of Doctor of Medicine. It is impossible for any man, however great his talents, to become so familiar with the diversified forms of disease, as not to be perpetually making mistakes, by merely reading in an office, and attending two or three courses of lectures, of four months' duration. Until the course of study is lengthened, and more diligent and careful attendance upon hospital practice, and to morbid anatomy and pathology are required, similar blunders will be incessantly recurring. In private practice, the opportunities for making post mortem examinations are so few, that students seldom behold, in a single instance, the ravages of morbid action; and what is worse, physicians themselves cannot discover, and consequently do not profit, by the mistakes of which they are guilty.

The remedy consists in prolonging the course of study; insisting upon longer attendance upon clinical instruction; and to have a professor of

pathology, and pathological anatomy; whose course of lectures and demonstrations shall be considered of greater importance to the mere physician, than all the others combined.

Dysphagia.—W. C——, ætat. 50, habits intemperate, but his health, previous to his present disease attacking him, was good. Admitted, December 5th, 1838. Six months ago, without any premonition, experienced some difficulty in swallowing his dinner. There was no pain, nor uneasiness; but the dysphagia gradually increased, and finally compelled him to seek admission into the Alms-House. He is very much emaciated and anemic. His appetite has always been good. He swallows fluids better than he does solids. He takes eight or ten tablespoonfuls of soup, with bread soaked in it, in rapid succession, when inverted action of the œsophagus takes place, and more than half is returned. Has no pain nor soreness when he attempts to swallow. There is slight uneasiness and a sense of obstruction at the top of the sternum; which probably arises from the distension of the œsophagus by the soup. Pulse regular, but small and weak; bowels in good order; respiration easy; voice reduced to a hoarse whisper; fauces inflamed. A probang introduced into the œsophagus, passed to within four or five inches of the stomach, when it was firmly resisted. Capsicum gargle was ordered for the throat. Ivory probangs of medium size were passed through the stricture into the stomach, with the effect of entirely removing the dysphagia. For a short time he improved rapidly in appearance, and became considerably fatter. From one to two weeks were suffered to elapse before the operation was repeated, in order to prevent dangerous irritation. The last time the instrument was introduced, a small quantity of pus and blood was brought up. The dysphagia was not very troublesome after this; but in a few weeks he again began to decline. The inflammation of fauces extended to his tongue; his voice became more whispering, and he died April 10th, 1839.

Autopsy. About eight inches of the lower part of the œsophagus was one ragged ulcer. The mucous membrane was entirely destroyed; and also the greater part of the muscular coat. The ulceration extended an inch into the stomach beyond the cardiac orifice, and terminated abruptly by raised edges. Three small masses of hard, cheesy matter were found around the edges of the ulcer, where it terminated in the stomach. Along the smaller curvature, the stomach was red and softened. The œsophagus, in the neighbourhood of the cardiac orifice, and likewise the stomach, adhered to the liver by effusion of lymph. Where the liver lies over the œsophagus, there was an hepatic abscess, containing six ounces of black, thick, soft matter. This abscess did not appear to have opened either into the œsophagus or stomach. The pharynx was red, and the mucous coat thickened. The velum pendulum palati was greatly thickened and indurated. The posterior part of the tongue, on its upper surface, had its covering greatly thickened and indurated; and the papulæ were very much enlarged. The half of the lingual surface of the epiglottis, next its base, was thickened and indurated; the mucous coat having numerous rounded prominences on it. The larynx was free from disease. The lungs were large and contained a few tubercles—probably not more than half a dozen. The bronchial mucous membrane was somewhat reddened; and the tubes contained a quantity of frothy mucus.

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Remarks. This, I suppose, is an example of what would be called scirrhus and cancer of the œsophagus. There was not as much induration of the tissues, as we usually find where scirrhus degeneration exists; but this may have been owing to the extent to which the ulceration had proceeded; by which process, softening had taken place. If the scrofulous diathesis had been strongly marked, by the deposition of tuberculous matter in the lungs and other parts, I should be disposed to call it a case of scrofulous ulceration. But as this was not the fact, and as the lumps taken out of the margins of the ulcer, in the vicinity of the cardiac orifice of the stomach, were harder than tuberculous matter ordinarily is, it may safely be called carcinoma.

If the patient had lived long enough, the hepatic abscess would certainly have burst either into the stomach or œsophagus.

We here also have an instance of remarkable change of the voice without disease of the larynx. The thickening of the velum pendulum palati, and epiglottis, and the inflammation of the fauces, appear to have been sufficient to reduce the voice to a hoarse whisper, precisely similar to the state in which I have repeatedly observed it, when the vocal chords have been found tumefied and indurated, on examination after death.

Baltimore, May 1st, 1839.

ARTICLE VII.—*Successful Operation for the purpose of remedying a Deformity of the Leg; consequent to a badly set Fracture.* By CHARLES PARRY, M. D., of Indianapolis, Ind.

THE patient, upon whom this operation was performed, was a young man near the age of 22; a member of the bar, of fine talents, and considerable attainments.

The history of the case is as follows:—At the age of fifteen, while skating on the ice, he fell and broke his right leg; the tibia about midway, the fibula two inches lower down. The physician who was called to attend the case, was considered skilful, but of intemperate habits, and, most unfortunately for the patient, was intoxicated at this time.

In what manner he dressed the fractured limb, it is impossible to say; but in the course of three or four weeks, it was found quite firmly united: the bones forming an angle almost equal to a right angle, at the place of fracture. The patient had to walk with a crutch, the toes of the lame limb not touching the ground when he was in the erect position. When he sat on a chair, and placed both feet on the floor, the knee of the sound limb was five inches higher than the knee of the lame one.

After suffering in this situation near two years, the patient determined

to consult some of the most eminent physicians through the country, in order if possible to have his situation alleviated. But they generally advised him to have nothing done; which advice he followed with all fortitude, for two or three years more; during which time he suffered such great inconvenience, that he finally concluded to make another effort, and determined to endure almost any pain, or submit to any plan of treatment that offered a feasible prospect of relieving him.

For this purpose, he went to Cincinnati, and consulted several physicians of that place; the most of whom again advised him to have nothing done, as they did not see much prospect of his obtaining relief. One or two, however, proposed to endeavour to break the limb over again, with the view of setting it straight. The patient being a person of strong mind and quick apprehension, was not satisfied of the practicability of this project; and as it was merely proposed and not urged with any warmth by the physicians themselves, it was not adopted.

The patient returned home; pursued the study of the law; was admitted to the bar; and commenced a lucrative practice. But still dissatisfied in his mind, (as he has frequently told me,) believing that something might yet be done to relieve his situation, and determined to submit to the first proposition that offered a probable chance of the desired result.

In this state of mind, I met with him in the summer of 1837; became intimate with him, when he gave me the history above related; and asked my opinion of his case.

After some deliberation, I stated that I thought he could be very materially benefitted by the following operation.

To cut down to the bones; dissect the muscles from them, and saw a little block out of the angle of each bone; bring the lower end of the limb in a line with the upper; retain them in juxtaposition by splints; and treat as a compound fracture.

As it was only necessary to convince the patient of its practicability, to have the plan adopted; he told me at once, I should operate, as soon as he could make arrangements for his necessary confinement.

My reasoning on the subject was thus: after the operation the case would be similar to a compound fracture, with probably less violence to the soft parts; that compound fractures, now a days, were generally succesfully cured, without a resort to amputation as formerly. I also, had in my mind the operation of Dr. J. Rhea Barton of Philadelphia, on the hip joint. I concluded the violence to the general system in this case would not be greater than in his; that if he could succeed in establishing an artificial joint, I certainly might succeed in forming a natural union; and let the worse come, the patient could not be a loser, for I could yet amputate, and the patient had repeatedly told me, he would rather have his leg cut off, than remain as he was.

On the 15th of January, 1838, assisted by Drs. Mason and Ford, others

present, I proceeded to the operation already described. I had prepared myself with a small saw, from the plate and description of Dr. Barton's in his hip joint case, without which I would have found great difficulty in sawing the fibula; from its being so closely and firmly fixed against the outward flat surface of the tibia, and covered by the tibialis anticus muscle. Further, without this small saw, it would have been difficult to avoid wounding the anterior tibial artery; for, while severing the fibula, I had to introduce the end of a finger between the artery and bone; and permit the saw to strike against my finger.

In sawing the fibula, I had made my calculations for the two sections to meet at the posterior part of the bone; but after the block of bone was taken out, I found the leg would not yield to moderate force. I then took off another section from the lower end, the appearance of which indicated that, at the original fracture, a very thick spicula of bone had extended across the angle, acting as a brace; the triangular space being filled up by osseous deposition. After this was overcome, the limb was brought straight without further difficulty.

By this operation, the leg was increased three inches in length.

January 16th. During the forepart of the night the patient rested badly; complained of much pain; on taking a large anodyne, about one o'clock, rested much better till morning. The leg was kept in its proper position very snugly. This morning, 16th, seemed quite smart; pain trifling. About eleven o'clock change for the worse; such as increased pain in the wound, with sensations of smothering; burning at the heart; followed by a slight chill and subsequent fever; gave a mild cathartic of blue mass. and rhei. Rested tolerably during the afternoon. Medicine operated at nine in the evening; took a portion of salts; operated at one; after which, slept well until morning.

17*th.* Quite smart this morning; relished his breakfast; no pain except on moving the limb; during this afternoon and evening, suffers much from "starts and jerks," as he calls them, in his sleep, otherwise there is but little pain while the limb is still; says he is afraid to go to sleep for fear of its jumping so, which sometimes causes him to scream out with pain; during the night suffered excessively from starts; gave large anodynes, did not allay them, however; gently rubbing the thigh, with my hand, was the only thing that allayed them; and while that was continued, he slept easy and free from starts; a passage at nine 9 o'clock.

18*th.* No material change; suffers a great deal of pain; removed a portion of the dressings, which afforded some relief; got up and set in a chair, while the bed was made; slept during the night better than usual.

19*th.* Still improving; leg not so painful; some swelled; pus; looks very healthy.

23*d.* The leg has been gradually improving until this morning, when from some unaccountable cause, the system became too much relaxed and

weakened; the wound has a bad appearance, and gaping; granulations of a leaden colour. Gave quinine freely, generous diet, and stimulating applications to the wound, &c.

25*th*, 26*th*, 27*th*. Improving finely.

28*th*. During the morning felt better than he has been at all; but in the afternoon met with a very serious accident; felt very smart; had a number of his acquaintances in the room, paying him a visit; was sitting up in bed, scratching his leg, as it itched considerably, when upon reaching too far to scratch his foot, and suddenly throwing the weight of his body forward, he broke up the new adhesions of the bones, and deranged their position; this caused him so much pain that he nearly fainted. Some hemorrhage proceeded from the wound; I found it impracticable to adjust the bones at this time, from the excessive pain the least motion produced.

29*th*. Very restless last night; appears to labour under extreme morbid sensibility. Says the snapping of a penknife, or the jar of a glass tumbler, shocks his whole body; during the night troubled in an unusual degree, with starts and jerking, this morning leg very much swollen. Large anodyne; poultice to the wound.

30*th*. Swelling of the leg increased; pain excessive; seems very drowsy, probably owing to the large portions of anodyne he necessarily took last night. Cathartic, poultices continued.

31*st*. Seems every way better; swelling reduced; with the assistance of Drs. Mason and Ford, I reset the leg.

February, 1*st*, 2*d*. Tumefaction running high again.

3*d*, 4*th*. Jerking excessive; tried enormous doses of anodyne equivalent to xij. grs. of opium at a time; repeated frequently; this not able to suppress it, nothing but the rubbing of the lame thigh does any good.

15*th*. Patient gradually and slowly improving; sets up most of the day in an arm chair; gets about the room with the aid of a crutch.

27*th*. Patient improving finely; went out of doors and walked up town with one crutch; is able to bear considerable weight on the lame foot.

March. Towards the last of the month, patient started on a trip to Wisconsin Territory to examine the country; went by water.

Remarks. I am fully satisfied that, in this case, mine was the only practicable operation that could have been performed. Had the limb been put in the pullies, as proposed by the Cincinnati physicians, I am confident the leg would not have broken at the desired place, from the great thickness of osseous matter there; but probably, if they persisted, would have broken, two inches or so, either above or below, which would have made the leg even worse than before. However much I had to regret the accident that befel the patient in the displacement of the bone, I have nothing to reflect upon myself from neglect, or otherwise, as it was entirely the patient's fault, his own accident; I deeply regretted it, because it gave him so much additional pain, and put him back three or four weeks, when he was doing

well, and had passed the worse period of confinement; and we were unable to fix the leg as straight as before the accident. I consider there was no position more favourable for the displacement of the bone, than the one he was then in, sitting up in the bed laughing with his associates, the heel resting on a firm foundation, and the only support under the wound was a bunch of cotton, as we had just taken the most of the dressings off, for the purpose of gently scratching the limb, which itched intolerably. In this position, suddenly throwing the body forward, putting into a state of tension the muscles inserted into the tibia and fibula, at the same time sending an impetus or force along the femur; from it continued to the bones of the leg; the heel could not sink, but the bones did at the wound.

I was highly gratified by meeting with the report of Dr. J. Rhea Barton's anchylosed knee case, in the February number of the American Journal of Medical Sciences; where the principles in surgery that are involved, and their applications to the benefit of his patient, is exactly the same as in mine, modified only in situation. At the time that I operated, I had never heard of his operation, although it had been performed more than two years previous, but not published until the February following.

Indianapolis, Ind., March 30th, 1839.

[NOTE.—The preceding case is an interesting one, and the expedient resorted to for the relief of the patient, is highly creditable to the ingenuity of the surgeon. The plan of treatment, as observed by Dr. Parry, is identical with that previously adopted by Dr. J. R. Barton, for the relief of a patient suffering from an anchylosed knee. It is probably not generally known, that operations of a similar character have been also performed in Europe: the following notice of three of them, all that we know of having been recorded, may be therefore considered as an interesting complement to this paper.

M. Clemot, surgeon in chief of the marine at Rochefort, has, in two instances, made resections of portions of the femur, in order to remove great deformities resulting from fractures badly treated. The first case was in a child in whom the treatment by extension, though persisted in for several months, had failed. The operation was performed in December, 1834. A longitudinal incision, two inches in length was made over the callus, and the bony angle fairly exposed. The fragments had united at an angle of about 112 degrees. Spatulas were placed beneath the bone in opposite directions in order to protect the soft parts, and the angular projection protruded. With a small saw, a section perpendicular to the axis of the superior fragment was made, including but two thirds of its thickness. A like section was then made for the inferior fragment. The loss of substance was not great, and was at the expense of the callus. The limb was then placed in a good position, and the fragments maintained in apposition. Seventy days after the operation the child was removed to Bordeaux, having the limb straightened and lengthened.

The second case, was that of a husbandman, ætat. 27, who, fourteen months and a half previous to the operation, had met with a fracture of the left thigh a little above its middle. After the cure, the femur remained deformed, and bent to an angle of 130 degrees—the summit of this appearing at the external and anterior part. The limb was shortened five inches, the leg and the foot carried inwards, and the patient unable

to walk. The callus was perfectly firm. Resection of the angular projection was made in February, 1835, and the limb afterwards placed on the double inclined plane. Seventy days after the operation, the inclined plane was removed, the leg and thigh being still kept in a state of semi-flexion, but slight motion allowed. The date of his discharge is not mentioned, though it is stated that he was able to support the weight of his body on the limb, and had a lameness scarcely perceptible.

The above cases are extracted from a memoir by M. Clemot, entitled, "*Sur la resection du fémur pour un cal vicieux*," presented to the Academie de Médecine of Paris, 24th of May, 1836.

M. Wasserfuhr of Stettin has also performed a nearly similar operation on a child ætat. 5, to remedy an angular deformity of the femur above its middle part, following a badly treated fracture. In his case, the fractured bone was consolidated in such a manner as to form nearly a right angle, and the limb was shortened to the extent of *twelve fingers breadth*. The operation was difficult, and followed by severe symptoms, but the patient recovered.*

Since the preceding was written, we have received the No. of Guy's Hospital Reports for April, 1839, and find in it an account of a similar operation recently performed by Charles Aston Key, Esq. for the cure of deformity of the tibia, occasioned by a gun-shot wound.

The subject of this case, Captain Charlton, had the tibia of his right leg fractured by a musket ball, on the 17th of August, 1835, in Assam, East Indies. "It appeared, from the history of the accident and subsequent treatment, that a considerable portion of bone having been lost on the inner side of the tibia, the broken ends had united at an angle, in the same manner and from the same cause as an ulcerated spine acquires an irregular form from loss of substance on the anterior part of the vertebræ. The upper part of the tibia had not only formed an angle at its point of union with the lower portion of the bone, but also deviated from its natural line in relation to the femur. Its head, with the articulatory surface, had been somewhat forced outwards, so that an appearance of obliquity was given to it when viewed from before. In addition to the great deformity of the tibia, the fibula had undergone a displacement at its upper extremity. Its head had been forced away from its articulation with the tibia, and formed an unnatural prominence, above the usual position in reference to the tibia. The bearing of this bone was also altered. Not having been broken at the time of the accident, it could not yield and form an angle, as the tibia had at the seat of fracture; but maintaining its natural straight line, it had been compelled to alter its line of bearing, in compliance with the angular form of the larger bone. The fibula, therefore, preserved a line parallel to the lower portion of the tibia. Its lower end, being forcibly acted on by the inward inclination of the foot and lower part of the tibia, had carried the upper part outward; and had caused a dislocation of its head, which had undergone some change of form, and possessed a degree of motion not natural to it in its ordinary position. The shortening of the whole limb occasioned by this alteration in form, was such as to cause Captain Charlton to walk on his toes; the heel being raised an inch and a half when he stood upright. The soft parts had a healthy aspect; and the cicatrix over the bone had not contracted a firmer union to the periosteum than is usual with wounds situated directly over bone."

The limb was useless; the patient was obliged to carry it at some distance from its fellow in the act of progression. Sir Astley Cooper and Mr. Key were consulted as to

* We are indebted for the above abstract of these three cases to our colleague Dr. G. W. Norris.

the possibility of restoring the natural line of the bones of the leg; and the former suggested as the only means of restoration, that the bones of the leg should be divided—doubting whether the division of the tibia alone would be sufficient to set the fibula at liberty;—but that the tibia should be first divided; and if necessary, the operation should be performed on the fibula. As the muscles were not apparently in fault, this course promised the patient relief. They seemed to have acted only from the tibia having lost its support on its inner side, and consequently to have drawn the foot and the lower half of the leg inwards. Their fibres did not appear to have undergone any permanent shortening.

The operation was performed by Mr. Key, on the 14th of October, 1838. "The tibia was laid bare on its anterior surface, by a longitudinal incision nearly four inches long, which traversed the line of the old wound, and allowed the integuments to be detached on each side; so that the anterior spine and the attachment of the soleus were exposed, just above the site of the old fracture. A strong steel grooved director, slightly curved, such as I use in operating for hernia, but narrow, was then passed along the outer surface of the tibia, detaching the tibialis anticus, until it reached the unyielding interosseous ligament. By a little firmer pressure, the director pierced it close to the bone. With another similar director, and by the same process, the inner and back surface of the tibia was so far detached from its muscles, that the ends of the two directors met behind the bone.

"A curved needle, on which was hooked a chain-saw, was then passed along the groove of the outer director, and from thence to the groove of the inner; and its point being brought to view by a pair of dressing-forceps, the saw was adjusted so as to cut the bone from behind. When the tibia was about half sawn through, the saw—as chain-saws too often do, even when lightly used—locked, and became useless: the section of the bone was therefore completed from before, by a small common saw.

"As soon as the tibia was divided, Sir Astley Cooper, taking the foot in his hand, found the lower part of the leg quite free to move in any direction, and that it was unnecessary to divide the fibula. As soon as the tibia was brought into a straight line, the head of the fibula was restored in some measure to its natural position, and ceased to project in the unseemly manner it had done before the operation. The part where the tibia was divided, gaped, as soon as the bones were straightened; and the point of contact between the sawn ends of the tibia was but a small portion of its outer circumference. The muscles had, from length of time, acquired so fixed a state, that some force was required to overcome their resistance: for as soon as the hand was removed from the foot, they immediately carried it inwards, to its former position.

"The limb was allowed to rest on pillows, without much restraint: it being thought advisable to allow the wound to pass into a healthy state of granulation, before any attempt was made to confine the bones with splints. At the end of about ten days the wound had quietly gone through its several stages, and had healed, with the exception of about an inch in the centre: this part continued more or less open for some weeks; discharging a healthy pus, and giving exit to a few minute portions of exfoliating bone. The inflammation that succeeded the operation, was less than might have been expected; and the constitutional disturbance was inconsiderable, owing, probably, to the natural temperament of the patient, and his long previous preparation. The suppuration seemed to be confined to the periosteum and ends of the bone; the surrounding soft parts remaining almost free from pain and tumefaction.

"The object to which it was necessary to pay close attention, during the progress of cicatrisation, was to counteract the resistance of the muscles, and to prevent contraction at the cicatrix when union had taken place.

"The limb, throughout the whole treatment, was kept upon the heel, with the knee straight. At first, two long lateral splints, well padded, were applied, so as to embrace

the foot on each side: to these were added, afterwards, an under splint, to give more effective support and steadiness to the limb. The constant tendency to displacement, was not effectually prevented by common tapes and bandages: as these became slack, the leg assumed its former distorted position; and thus motion was given to the broken ends of the bone, in adjusting the line of the limb. To avoid this, which was not practicable by means of straps or bandages, a tourniquet was applied at either end of the splint. The length of lever enabled the upper tourniquet to act with great power on the foot, and to keep it in a straight line with the thigh. The lower one was kept firmly screwed to the heel of the two splints; thus keeping the foot firmly secured, and giving steadiness to the action of the upper tourniquet. This plan of keeping the tapes of the tourniquets tight prevented motion or displacement in the ends of the bones. It was at one time contemplated to substitute the white-of-egg bandage, in place of the splints; but the attempt was unsatisfactory, as displacement of the limb gradually took place; and we were compelled again to have recourse to the method which had answered our purpose so well, with the addition of a long outside pad on the fibula.

"The process of union and of consolidation, was necessarily tedious, from the limited points of contact between the sawn ends of the bone and the space which had to be filled up on its inner part. It was not till the beginning of January, that union could be said to have taken place; as before that time, the limb would slightly yield, when released from the splints. On the 18th of January, the wound having been some time closed, and the bone seeming to be firmly united, Sir Astley Cooper, in the presence of Mr. Atkins and Mr. Balderson, who had unremittingly watched the progress of the case, made a careful examination of the leg, and pronounced it to be united and firm. The fibula, though deviating but little from its usual appearance, had not become quite firm in its new position; the ligaments remaining weak, and unable to sustain it without allowing some slight lateral motion. It was deemed advisable, while the external callus was forming and acquiring firmness, to continue the splints with common bandages and fillets. This precaution was also rendered necessary, by the possibility of the newly-formed cartilage contracting before bone had been deposited in sufficient quantity to give it solidity. The length of the limb appeared little less than its fellow, when they were laid together parallel to one another."

On the 10th of March, 1839, the date of the last report, the leg continued in good position; but the cicatrisation of the wound had been retarded, by the coming away of several small portions of bone; in other respects, the patient was doing well.—ED.]

ARTICLE VIII. *Notice of the Scarlet Fever as it occurred in the Valley of Virginia and in the counties of Loudon and Fauquier in the year 1832; and of the Treatment which proved the most successful.* By H. D. MAGILL, M. D., of Virginia.

IN the year 1832, the scarlet fever made its appearance in the northern counties of the Valley of Virginia; and extended its ravages across the Blue Ridge mountains, into the contiguous counties of Loudon and Fauquier. It was attended with dreadful fatality.

The depleting plan of treatment was at first universally adopted in the Valley. In some instances, during this mode of treatment, the patient sunk

under the first bleeding, and either died immediately or languished for a few days in a state of hopeless debility. In other cases the free operation of cathartics given to reduce inflammatory action seemed to exert a highly deleterious influence by prostrating the afflicted. In many instances when depletion was used under the most favourable circumstances, gangrene, and sloughing, ensued in and around the orifice made by the lancet; and it was not an uncommon occurrence for blisters to mortify.

But it might be asked; what was the condition of the patient subjected to this plan of treatment? was depletion contra-indicated by the symptoms? Not at all; the symptoms seemed imperiously to call for such a course. The pulse exhibited a high grade of arterial action, the brain appeared to be frequently in a state of congestion; generally there was considerable delirium and occasionally much oppression about the pulmonary regions. Bloodletting and free purging appeared to be absolutely necessary in order to reduce the excitement to a proper standard; in some cases it seemed to be required, to prevent disorganization of the brain on the lungs, threatened by violent excitement or over-powering congestion.

The writer, residing and practising his profession in one of the Valley counties at the time, was an eye witness to the above facts. Soon after the appearance of scarlatina in the Valley, it broke out in the country east of the Blue Ridge mountains; and showed itself extensively in the counties of Loudon and Fauquier. The same system of practice was adopted that was pursued in the Valley of Virginia; with precisely the same results; for the mortality was frightful. There was one exception to this course;* one physician had sagacity enough to detect the erroneous views entertained of the disease, and firmness enough to differ from his professional brethren in the course he pursued; having adopted the old established doctrines with regard to the disease, upon which he practised with some modification, and with the most distinguished success. His loss did not exceed two per cent. He was frequently called to the aid of those who pursued the depleting plan, and generally by his simple mode of treatment, succeeded in snatching from the grave, patients who had previously been considered in a hopeless condition. Soon after the great epidemic of 1832, the writer removed from the Valley to the county of Loudon, where he has since pursued his profession. Influenced by the ill success of the depleting plan, he has since practised after the mode pursued by the above mentioned physician, with entire success; and can state the fact that whilst death has been common from scarlatina in the neighbouring counties, and several in this vicinity have died when a different mode of managing it was adopted, but one has occurred in the range of his observation, that was treated after this mode. It is proper that the writer should introduce, previous to entering upon the treatment of scarlatina, extracts from several letters, in answer to a call for information on the

* Dr. W. L. Powell of Leesburg Virginia.

subject, and the mode of treatment pursued; as they will confirm the statement made by him. Two will be sufficient. The one is taken from the letter of a gentleman who stood at the head of his profession in the Valley; the other is from a physician of extensive practice in the upper part of Loudon and Fauquier counties. "With respect to the treatment (says the former) I believe I tried every plan recommended by the best writers, and am equally dissatisfied with them all. The emetic plan recommended by our old professor Rush failed to arrest the disease, and I think frequently increased the inflammation of the stomach and throat. The bleeding plan recommended by Armstrong proved equally objectionable; in the simpler form it was unnecessary, and in the malignant it prostrated the patient. The punctures frequently mortified. Cold affusions recommended by Dr. Currie, moderated the excitement, but failed to arrest the disease. Blisters should never be applied, they so frequently become gangrenous, that I feel astonished they should ever have been recommended."

The remarks of the latter physician, above alluded to, are as follows:

"The number of patients I have visited, since the 1st of April is 136; of this number I have lost 14;* five died within a few hours after *my first visit*, leaving nine with whom I had any possible chance. All the cases attended with cerebral inflammation *either in my own practice, or that of others as far as I can ascertain, died.* In my treatment, I have paid no regard to the name of the disease whatever, but have endeavoured to accommodate the remedies as nearly as I could to the different grades and symptoms which presented at each visit. The majority of the cases were of the anginose kind, and very violent. In these I constantly *bled until nausea or faintness* was induced. Next I generally gave an emetic and cathartic combined, and kept up a catharsis for a day or two, with pretty large doses of calomel; and during the intervals I gave broken doses of ant. tart.; sometimes muriate of ammonia in conjunction with calomel and tart. I used cold ablutions very freely, and often enough to keep down the temperature of the skin. In using the cold bath *I paid no regard to the eruption;* as this appears to have no control over the disease; and in very many cases does not make its appearance at all. I have frequently cupped and blistered behind the ears, on the back of the neck, and on the chest; but have done so with a trembling hand, as the latter are generally very hard to cure and once or twice became gangrenous. So much for our epidemic. I cannot boast of having given you any thing new or successful."

Treatment. If called in immediately after the attack, ipecacuanha should be administered so as to cause free vomiting. Should the first dose not have this effect, it ought to be repeated until it succeeds. The preparations of antimony are objectionable, inasmuch as they are calculated to increase the

* This letter was written in June, 1832; how many died afterwards can not be ascertained.

local irritation of the stomach, which in every severe case amounts almost to phlogosis. If there seems to be a necessity for keeping up a slight nausea, it should be done by small doses of ipecacuanha. Much mischief has been done by the use of tartar emetic in scarlatina.* The writer was lately called upon to see a case in which paralysis of the stomach existed, evidently caused by the presence of this article within an inflamed mucous membrane. After free emesis has been produced, every effort should be directed to the surface. By bathing the feet and legs, in warm water; and making applications of hot bricks; and bottles filled with hot water, to the extremities, and body, in conjunction with warm herb teas, such as an infusion of saffron, mentha pulegium, hoarhound, &c. diaphoresis will generally be induced; which can afterwards be easily maintained, by covering up the patient tolerably warm, and continuing the use of the sudorific teas above mentioned. It will frequently be found necessary, should the tongue be loaded and the discharge of a light complexion, to give a moderate quantity of calomel in the commencement; but this should not be repeated unless circumstances imperiously demand it; inasmuch as the continued use of mercury might produce an irritable state of the stomach and intestinal canal which would seriously interfere with the well-doing of the patient. The bowels should be kept gently open by the mildest and most soothing cathartics, such as the ol. ricini, of which a small dose may be given every twelve or twenty-four hours, according to circumstances. In most cases there will be an evident exacerbation, every evening, accompanied with more or less delirium. This can generally be relieved by gently increasing the cathartics, putting the first in warm water, and giving warm herb teas. If the stomach should be irritable† repeat the emetic as at first administered. In one instance where the lungs were considerably affected the writer prescribed an emetic every evening for several days with marked advantage. All the unpleasant symptoms give way, including the delirium, upon producing diaphoresis by these means. In cases where the disease obstinately resists every effort to effect diaphoresis, perseverance in the use of the foregoing remedies will generally produce it at last. To prevent inflammation of the throat and to relieve it if it should occur, the mouth, and pharynx should be gargled every three or four hours, with an infusion of cayenne pepper; and if the patient should swallow a portion of it, there will be no injury sustained. Should ulceration supervene, equal parts of the tinct. of Peruvian bark and myrrh should be used as a gargle. The swelling of the glands may be discussed by an application of hops steeped in hot vinegar, and thickened into the consistence of a poultice by bran or corn meal. The diet should be mildly nourishing and the drinks all warm. It is an important part of the remedial

* The effect of tartar emetic upon a highly irritable stomach is a well known fact. I feel surprised it should ever have been used in Scarlatina.

† When the vomiting is excessive, it will be promptly checked by the mint julep.

course that not more than one or two patients should be kept in the same room. Perfect quietude should be enjoined.

In the commencement of the attack should the pulse be strong and corded, and should this condition of the circulation be attended with great congestion of the brain or lungs; there can be no doubt about the propriety of extracting a small quantity of blood either by cups, or leeches, and even by the lancet; but generally this state of things can be relieved by diaphoresis brought on by the before mentioned means, conjoined with the use of sinapisms; which should never be suffered to remain on long enough to produce vesication. In this state of cerebral congestion emesis is produced with great difficulty, but whenever it can be with facility effected, it generally relieves the brain.

Cases sometimes occur, in which the patient is immediately struck down as it were, by a sudden prostration of the vital energies. In such cases the pulse suddenly sinks, the extremities become cold, and the patient appears, almost insensible. Here the system should be roused by sinapisms, and the exhibition of an active stimulant,* before an emetic is administered. But this should always be given and repeated until active vomiting is produced, so soon as the system appears to be sufficiently revived, for the stomach to be sensible of the presence of the medicine, and this should be followed by all the means necessary to keep up a determination to the surface.

Should ulceration and sloughing of the throat occur whatever may be the state of the pulse, the plan of treatment should be decidedly tonic. The Peruvian bark in tincture should be freely administered; and very often it will be proper to make free use of some active stimulant, especially if the pulse should be weak and failing. When diarrhœa occurs from swallowing the offensive secretions of the fauces, port wine may be given with advantage. After the disease has run its course, it frequently leaves unpleasant sequences,† such as suppuration of the glands, dropsical effusions, &c. At the same time that the remedies peculiar to such affections are freely administered; the system should be supported, by a generous but easily digested diet; and the use of Port or Madeira wines. Should any obstruction of the abdominal viscera appear to exist, small doses of calomel may be combined with the squills which is usually given to remove the dropsical swellings. Perhaps the most effectual mode of restoring tone to the skin, is the use of the warm salt bath.

But in treating of the secondary symptoms of scarlatina I speak of what seldom occurs, when the foregoing plan of treatment has been pursued. That shattered state of the system which gives rise to such consequences does not often take place, when the disease is managed after this manner. As a proof of this fact I refer to the experience of those who have tried it.

* Mint julep has been given with great advantage.

† Dr. Powell avers that he is not often troubled with secondary symptoms in his practice; and when they do occur they are generally easily removed.

If called in late, after a different mode of practice has been pursued, particularly if depletion has been carried to any extent, the proper course would be to commence immediately with the bark, for it but seldom happens that depletion does any good unless its effects are immediate. In other words if the patient does not mend promptly, and decidedly under depletion, we may always conclude the system to be in an adynamic condition after the attack has lasted several days. Very frequently in cases so treated, the patient, drops off when least expected, either by friends or physician. The pulse may be tolerably firm, and the general indications of strength cheering; still if the disease is at all severe at this late period, the patient may and does frequently sink with the greatest rapidity. Death in such cases is generally preceded by coma; any approach of which should be viewed with the greatest alarm.

To conclude. In the mild cases of scarlatina, patients will require but little attention; except to prevent them from being exposed to a draught of air keeping up a gentle moisture on the surface, and the bowels open; with ol. ricini, or some other mild cathartic. It would also be advisable to wash the throat occasionally with the pepper gargle. In the severe forms, the practitioner's main object should be to produce diaphoresis and steadily maintain it; and at the same time counteract the rapid failure of the system, exhibited in the general, but more particularly, in the local affections, by all the means previously recommended for that purpose.

Leesburg, Virginia, June, 1839.

MONOGRAPH.

ARTICLE IX. *On the Principal Diseases of the Liver.* BY N. CHAPMAN, M. D., Professor of the Practice of Medicine in the University of Pennsylvania.

No organ of the body, is much more curious or interesting in several respects, than the liver.

Like the stomach, it belongs to nearly every class of animals, and on account of its early development, its immense size, the peculiarities of its circulation, its intimate sympathies, as well moral as corporeal, and above all, from the high functions it performs in the animal economy, it is of our complicated and wonderful machine so important a portion, that its derangements deserve the utmost consideration.

I. *Hepatitis.* Commencing with hepatitis, or inflammation of the liver, I shall, successively bring into view the other affections, which are to claim my attention.

This disease comes on, for the most part, with the ordinary symptoms of pyrexia, such as chilliness or rigors—followed by flushes of heat, and finally fever. Nausea and vomiting are apt to take place, sometimes of bile, though oftener at first, of tough phlegm—and I have seen it of dark granulated matter, or of a perfect fluid of the same colour, or there is only a sense of epigastric or præcordial uneasiness, attended by deep sighing, and considerable jactitation and nervous wretchedness. The bowels are torpid, and the discharges small and costive, indicative of deficiency of biliary secretion, or a diversion of the fluid upwards, in consequence of puking, or, as may happen, some form of the intestinal fluxes prevails.

Concomitant on one of these conditions, or immediately succeeding to it, there is pain in the right hypochondrium, sometimes pungent, and in other instances dull, with feelings of fulness and weight—and on pressure, or from a deep inspiration or cough, an increased sensibility is betrayed.

The pain sometimes extends to the right clavicle, or to the top of the shoulder blade, and I have known it to be felt exclusively, and often more acutely there, than even in the region of the liver.

Cases, however, occur, and especially in women, where all the sufferings of the primary as well as the secondary affection, is in the opposite side, and here, probably the seat of the lesion is in the left lobe of the liver.

Commonly, the fever becomes high, with a strong, full, disturbed pulse, hot dry surface, foul coated tongue, bitter taste, much thirst and headache—and after a few days, the skin may be tinged of a dusky or bilious hue, in which latter the adnata participate,—and the urine, which is much reduced in quantity, is of the various shades of yellow to a deep saffron.

The liver is now sometimes so swollen, and tender, that the patient can lie on neither side, though he is most disposed to turn on that affected, as the least uncomfortable, being thereby relieved, in a degree, from the weight and oppression of the distended organ. Tenderness occasionally pervades

the whole abdomen, owing, to the extension of the inflammation, from the peritoneal covering of the liver, to that membrane generally. But I have seen hepatitis where there was no pain in the affected part, or at the shoulder, no sallowness of the cutaneous surface, or of the eyes, and very little aberration in the pulse. Greatly is the disease diversified by climate, and very prone is it to exhibit irregular and anomalous symptoms. Especially in India, its onset is sudden, sometimes without any premonition, and its course much more rapid and vehement, running to suppuration in a few days, and in some instances, without any distinct expression by pain or fever. The action is said to be rather congestive, with a mixture of inflammation, than actually inflammatory.

Nor is it uncommon for an attack to be ushered in and associated throughout, with the phenomena of diarrhœa, dysentery, or cholera morbus. Cases of the disease have also come under my notice, assuming the guise of gastritis, or to expend their force entirely on the head, producing the most relentless agony, with great mental disorder, or in the kidney, or at the umbilicus, or in the calf of the leg, with a numbness of one or both arms.

Cullen, and indeed most writers, have endeavoured to explain some of these deviations from the common order in the phenomena, on the supposition, that in such cases, different portions of the liver are affected.

Thus it is affirmed, that when there is a predominance of pectoral symptoms, the convex surface is inflamed—and conversely, if much gastric uneasiness prevails, the concave. It is also alleged, that the disease is modified, as the membranes, or parenchyma of the organ may be the seat of the affection. No doubt such is the fact. The peritoneal covering or ligaments being phlogosed, we shall have sharp, acute, lancinating pain, with a hard, corded, small pulse, and a white furred tongue, without the sallow hue, or vitiation of the biliary secretion—and very much the contrary, when the substance is phlogosed, or dull, obtuse sensations, with a fuller and slower circulation,—a brown or yellow, and more heavily loaded tongue, and an excess, or suppression or depravation of bile. But in most instances, each structure is involved, so that the phenomena become confounded. It is questionable, indeed, whether distinct inflammation of the peritoneal covering or its ligaments, ought to be considered as hepatitis. More properly it appertains to peritonitis.

An acute phlogosis of the liver itself is, for the most part, and always when intense, rapid in its progress, and if a decided impression be not made on the case, we shall perceive in a few days, either a sinking of the vital forces, or the signs of suppuration taking place, or a tendency to chronic degenerations.

Men, it is said, are much more liable to the disease, than women—and that it rarely shows itself in children.

The latter remark, however, is not of universal application. Children in miasmatic countries, are singularly subject to it, especially in the subacute, or chronic shape—and I suspect, that the greater number of cases among men, under ordinary circumstances, is referrible only to their depraved drunken habits, or greater exposure to its other or external causes.

Causes.—In common with the phlegmasia, hepatitis may be excited by the sudden vicissitudes of weather, cold succeeding to heat especially, or by mechanical injuries, as blows, falls, &c. Not an uncommon cause is the abuse of ardent liquors, or excess in eating, particularly of high seasoned or gross food. The former is insisted on, while the latter, is too generally overlooked.

Detrimental as intemperance in drink undoubtedly is, in this and other respects, I presume that our well being is not less affected by gluttony, and

that the good of society as much requires an institution for the reformation of the gourmand, as the drunkard. The inconsistency of mankind, sometimes very extraordinary, has rarely been more strikingly illustrated, than in this very instance. It might be instructive to listen to the denunciations of our modern moralists against whiskey potations in particular, were they not so often accompanied by the belchings of the fumes of ill digested turtle, or of luncheons of roast beef.

As to hepatic obstructions, I am quite sure, that such a course of living is a most prolific source. By Shakspeare, the closest of observers, we are told:

> "It engenders *choler*, planteth anger.
> And better 'twere, that both of us did *fast*,
> Since of ourselves, ourselves are cholerick,
> Than feed it with such overroasted stuff."

Temperance, I repeat, consists in moderation as well in eating as drinking, and he who wishes to preserve health or decency must alike restrain the "lusts of appetite," in each respect.

Milton has truly said:

> "If thou well observe
> In what thou *eat'st* and *drink'st*, seek from thence
> Due nourishment, not gluttonous delight.
> Till many years over thy head return:
> So may'st thou live, till like ripe fruit thou drop
> Into thy mother's lap, or be with ease
> Gather'd not harshly pluck'd for death mature."

But of the physicial agencies, perhaps the most operative are heat and miasmata. That the former alone, produces the disease, I am aware has been disputed. Not to repeat, what has been so often discussed, the influence of a high temperature in deranging the chylopoietic viscera, I have now only to state a fact of the effects of heat on the liver. The "paté de fois gras," so delicious to the epicure, is made chiefly of the liver of geese. It is well known, that at Strasburg on the Rhine, where this celebrated pie is prepared, the practice exists, with a view of giving a preternatural growth or hypertrophy to the liver, of placing a goose for some hours before a fire, and that even within so short a time, this organ is enormously swollen in its dimensions. As cold deranges the pulmonary, so does heat the hepatic apparatus, and each state of temperature is similarly distinguished by the variety of morbid conditions into which it respectively throws these organs.

Combined with miasmata the operation of heat is still more powerful, so much so indeed, that the disease is often endemic in such an exposure. We have examples of it in our own country, and still more strikingly along the coast of Coromandel, and in the alluvial districts of Bengal.

Nearly as much are brute animals liable to it in such situations, and particularly cattle and horses. Born under the morbid influence, they as the human species are less affected by it, though neither has an entire immunity. By some of the oriental writers, it is stated that animals in common with man, brought from Europe, speedily fall victims to it in large numbers, and I am told, it is equally so in relation to our southern states. Exactly the opposite holds as to pulmonary affections, or the natives of the warm, the human and the brute, suffering in this way, on a translation to a cold region.

In medium climates, hepatitis is seen chiefly in sporadic occurrences, and in its mildest presentations. As to this city and vicinity, I know this to be

true, and have reason to believe it to be the case in western Europe. But on some occasions it is otherwise, and hepatitis breaks out, and spreads extensively and violently. An instance of this kind happened in Ireland in 1818, where it previously had sparsely existed, the disease very frequently ending in abscess, such was the force of its character—and with us, during the existence of the epidemic constitutions, causing yellow and intermittent fever, the same was observed both as to the human species and animals, cattle and horses especially suffering, with what was called the yellow water, I presume from the urine having that colour, a febrile affection occasionally terminating in suppuration of the liver.

Certain mental emotions may also be included among the causes of the disease in the human subject. Exasperated anger, or terror, or jealousy, irritate and distend the liver, promotive of an increased secretion—while fear, or grief, or other depressing states, have an opposite effect.

The ancients were aware of the influence of jealousy, and its correspondent irritability and fractiousness on this organ.

Does not every classical scholar remember the beautiful lines of Horace, that Prince of Poets?

> "Cum tu, Lydia, Telephi
> Cervicem roseam, et cerea Telephi
> Laudas brachia, væ, meum,
> Fervens difficili bile *tumet jecur*."

Even temper and character have such an influence on the organ, that to call the sour, the envious, and malignant, a white-livered fellow, has grown into a common phrase.

No less remarkable is it, that most of the complaints of the lungs, cheer and preserve the spirits while those of the liver induce dejection, gloom, and melancholy.

The very term *hypochondriasis*, is derived from the notion of antiquity, that it depended on some affection of the hypochondriac regions, and melancholy, from the Greek, signifying black bile. Between the brain and the liver, there would seem indeed, to be as close a physical as moral sympathy. We know, indeed, how much the former shares in all the diseases of the latter, and which is fully reciprocated. Concussions and other injuries of the brain have often been followed by suppuration of the liver, and conversely, lesions of the liver reflected on the brain. By the metastasis of gout, and still more frequently from the suppression of hæmorrhoids, though neither event is very common, this disease is occasioned.

Diagnosis.—No very great difficulty is there usually in the recognition of acute hepatitis.

The case with which it might be supposed most readily to be confounded, especially when the left lobe of the liver is affected, is splenitis. But this is of such rare occurrence, that even its very existence has been doubted, and of which I, at least, have never seen an instance.

Gastritis might, in the commencement, be more readily mistaken for inflamed liver, so greatly is the stomach irritated and disturbed occasionally. But after a while, the morbid action becoming more concentrated in the former organ, the phenomena are less confused or ambiguous. Equally may phlogosis of that portion of the colon approximating the liver be confounded with hepatitis. Yet by a careful examination, they are to be discriminated, and among the signs none perhaps, is entitled to greater confidence, than the imperfection of the process of fecation, when the intestine is concerned.

This disease is sometimes imitated by pneumonia. An accurate comparison, however, of the phenomena of the two complaints, will generally dissipate the obscurity. Even the pain, the cough, and impeded respiration, the symptoms which cause the perplexity in these cases, are not similar in all respects. They are in hepatitis, less prominently marked, and seem rather the result of secondary, than primary irritation of the lungs, and at the same time, we have indirect impression of hepatic disturbance, the gastric distress, the tenderness on pressure, with the peculiar appearance of the skin, and of the alvine and urinary discharges. No implicit reliance can be placed on the pain of the shoulder, to which such importance is generally attached. It is very frequently wanting, and when it does occur, is said by Louis to be more indicative of pulmonary than hepatic disorder, in which opinion, I do not concur. But, in the external means of exploration, percussion and auscultation, there is always a key to unlock the chest and expose it, as it were, to view. It may be further remarked, as strongly denoting hepatitis, that soon after the blood is drawn, or prior to its coagulation, it is of a dull green color, and on the separation of its constituent parts, the surface formed of the size or lymph more particularly, is yellow.

Prognosis.—An attack of acute hepatitis, ending favourably, or by resolution, is often distinguished by some critical discharge, as copious hæmorrhage from the nasal or hæmorrhoidal vessels, or profuse perspiration, or urinary, or alvine evacuations, or by erysipelas, the internal irritation being thus reflected on the cutaneous surface. Nature, however, not relieving herself in any of these modes, approaching convalescence is evinced by subsidence of fever, and topical pain, by tranquillity of the stomach, less constipation, and more bilious stools, with improvement of complexion.

An opposite conclusion is warranted, when such happy changes do not take place. Of the adverse terminations, one of the most common is in suppuration, and an abscess being formed, its contents may be variously evacuated. To have the matter pass out through the ducts is the most desirable, and next to this, externally. The abscess usually points over the region of the liver, though in one case it broke in the axilla.

As liable, however, is it to rupture inwardly, and here, unless the matter is thrown into the primæ viæ, the event is usually fatal. Most frequently it is emptied into the colon, though sometimes into one of the small intestines, or the stomach. Examples are recorded, where it opened into the abdominal cavity, proving mortal by inducing peritoneal inflammation or hectic fever. But such a catastrophe does not uniformly happen, we having instances where the fluid being absorbed, the event was favourable.

It is said to have burst into the thorax, the pus expectorated, and a final recovery, though, more commonly, suffocation has speedily followed such occurrences. Thirty years ago, Dr. Pascalis, of New York, then residing in this city, was supposed to have survived under these circumstances, and similar instances are related by Annesley and other writers.* But conclusions of this kind can only be conjectural, where no subsequent opportunity presents of an autopsic inspection. Expectoration of purulent matter does not afford positive evidence of the rupture of an hepatic abscess into the chest.

By sympathy, the mucous tissue of the lungs becomes phlogosed, and secretes pus. Formerly, a case of this kind occurred in our hospital, which, at the time, was thought very anomalous and perplexing. The patient died, having previously, for some weeks, expectorated pus freely, as

* See this Journal for Nov. 1837, p. 253, and for May 1838, p. 176.

was presumed, from an abscess of the liver communicating with the thorax. None, however, or even any adhesion, was discovered on dissection.

In a second instance of supposed hepatitis, the pus escaped with the urine, and, on examination after death, an abscess of the kidney was detected, the liver being perfectly sound.

Clarke mentions a case in which the matter escaped into the pericardium, and another of similar description is given by Smith of this country, to which a third has lately been added by Professor Graves, where the abscess communicated with both the pericardium and stomach—all three, of course, proving fatal.

From what has been said, much may be collected of the curability of this disease. Nearly always, with us, when timely and vigorously treated, it submits to our remedial processes. But under different circumstances, it proves otherwise very generally, by suppuration, or other organic lesions, which, sooner or later, terminate or embitter existence by the sequelæ entailed.

Louis says, that recoveries never happen where an abscess forms. Numerous as his examinations were, he met with no instance of cicatrization, or a tendency to it. But such negative testimony must not be received as conclusive, against the positive experience of many respectable authorities. Two instances of recovery I have known myself.

Lesions.—On a post mortem inspection, we find the liver more or less enlarged, and in those instances, where the serous covering is implicated, marks of phlogosis, which consist mostly of extravasations of lymph, less adhesive than usually, and with little disposition to become membranous, or to form attachments. Externally, the liver itself is of a livid, red, or marbled aspect, and what is observed on dissection of it, may, perhaps, be embraced under the several states of increased vascularity, softening of texture, suppuration, and gangrene. Commonly, the lesions are on the surface, though often also in the very substance of the viscus. Each portion may be independently affected, or both unitedly.

Death taking place in the early stage, the vessels are turgid with blood, productive of redness and swelling of the organ. Connected with these, in the second stage, the substance is brittle or friable, and being squeezed between the fingers, seems to be granular, though readily reduced to a pulp—and such is sometimes the ramollescence, that it is almost deliquescent. When the case is still further advanced, the texture is changed from a reddish to a yellowish hue, by the presence of pus, which gives to it this colouration. The purulent matter is diffused through the cellular structure, or collected in several small, or one large, or even enormous abscess. But instead of pus, it may be a heterogeneous fluid of a dark grayish colour, or resembling the washings of flesh, with flakes of blood in it. Genuine purulent abscesses are seldom met with in the temperate climates of Europe, or in this city. Louis states, that in four hundred and thirty dissections, he detected only five in the substance, and not one in the coverings—and suspects that the latter occurring, it is in the cellular membrane, between the peritoneal investment and the glandular structure of the organ.

Bichat asserts, that gangrene of the liver may take place, and which, though rarely, has been subsequently observed by Andral, &c. Never have I seen it, or heard of its being seen, in our investigations in this city in private or public practice. No one, perhaps, has had greater advantages than Annesely, in determining this point, from his long residence in India, the region most prolific of the disease, and from the ardour with which he seems

to have cultivated its pathological anatomy. But he, never meeting with it, is disposed to infer, that what has been apprehended to be gangrene, was the black congested and softened state of the viscus, incident to very violent attacks of the disease, or to a putrid condition induced after death, which conjectures I think very probable, as such appearances I have witnessed from each of the causes he alleges.

Besides the phenomena already noticed, it is not uncommon to remark inflammation, with other lesions, of the mucous lining of the gall bladder, and of the biliary ducts; frequently, also, of the stomach and the duodenum, and in some rare instances of the entire track of the alimentary tube, as well as of the peritoneum and other portions of the abdominal viscera. Nor does the brain, especially where much cerebral disturbance has prevailed, escape—it betraying, on the contrary, sometimes, all the manifestations of extreme sufferings.

Pathology.—Excepting the peritoneal covering, or ligaments are primarily engaged, where it may be otherwise, I believe, that in common with every other real hepatic affection, an inflammation of the liver, not occasioned by some direct act of violence, has its original seat in the stomach. An irritation is first given to the mucous surface of that viscus, and continuously, or by consent of parts, becomes extended to the duodenum, ductus choledochus, and finally, into the more intimate structure of that organ. These pathological views, having fully developed on a preceding occasion, I shall not again expatiate on the subject. Enough may it be for the present to state, that I am led to this conclusion by the history of the causes, their nature and mode of operation, the early symptoms, and appearances on dissection in hepatitis, when it terminates suddenly, and from its close analogy to the affections, which are undoubtedly of gastric origin. Many instances indeed of it come on in the form of gastritis, or diarrhœa, or dysentery, showing clearly that the liver is not here, at least, the seat of the first link in the chain of the morbid process. No pathological fact is better established, than that an irritation at the mouth of any duct, is speedily transmitted throughout its ramifications, with a tendency to involve all structures with which it may be connected.

An effect of this hepatic irritation, is a fluxionary movement, productive of more or less congestion of the portal circulation, by which the liver is distended and enlarged, followed usually by inflammation, with sometimes, ultimately, those diverse disorganizations incident to the case. From a concentration, however, of the morbid action in the liver, the original, or initiatory disturbance of the primæ viæ, is often relieved or becomes so subordinate as to be concealed or masked in many cases, though it may be different, or the whole series of affections from the first to the last, uninterruptedly maintained, and conspicuously exhibited. This is essentially the doctrine of Broussais, in which, however, he was anticipated by me, by many years.

Treatment.—The treatment of acute hepatitis is now generally understood, and pretty well defined. We have a case of active inflammation in a voluminous and important organ, which can only be arrested by prompt, vigorous, and decisive measures. Of these, incomparably the most effectual is venesection. Not to be dispensed with in any severe parenchymatous phlogosis, it is here peculiarly serviceable from the intimate connection of the organ with the venous circulation. The lancet, in many instances, is to be freely urged, and the operation to be repeated day after day, in vehement forms of the disease. Nor am I aware that in cases of a more congestive character, venesection should not be carried to the same extent. As vindicating the practice,

it may be stated, that on the loss of blood in either state, a most manifest subsidence of swelling and tenderness of the liver takes place, with a correspondent general improvement of condition.

Much may also be expected from topical bleeding, by cups or leeches, which, however, is more especially useful where the pain is acute, and dependent on inflammation of the coverings of the organ. It is customary to apply the leeches over the seat of the affection, and here they answer very well. But some of the recent writers insist that they prove still more efficient, when put around the anus. Considering the greater intimacy of connection of the vessels of this part, with the portal circulation, it is not improbable, and which indeed is confirmed by the decisive results of the hemorrhoidal flux in such cases. But then to prove so efficacious, the phlogosis or congestion must be seated chiefly in the substance of the liver.

Emollient cataplasms, or fomentations in any way to the affected side, are sometimes productive of great relief.

On adequate reduction of vascular excitement, the application of blisters becomes highly important.

Nevertheless, while using the lancet, and its immediate auxiliaries, we must not neglect some other means. It is confessed, on all hands, that where the stomach or intestines are not actively inflamed, purging is immensely serviceable. Calomel is the proper article, exhibited at night in a large dose, and worked off the next morning with Epsom salts or castor oil. To purge freely in this case, is of peculiar importance. The liver, while phlogosed, has also its secretory function suspended or impaired, and, though the former state may be subdued by the loss of blood, the cure will not be accomplished till the latter is restored. It has been justly remarked by Johnson, that the liver under such circumstances is like the female breast gorged with blood and stagnant milk, and unless the lactiferous ducts are emptied of their contents, suppuration will ensue, in spite of general or local bleeding and other means. Exactly so with regard to hepatitis. The biliary ducts must be emptied of the viscid and vitiated bile, by which they are obstructed, and the healthy secretion reinstated, or suppuration, or chronic disorganization, will take place. Now, to meet this indication, calomel, above all articles, is appropriate, it emulging the liver, and promoting its natural offices. Though many other purgatives will evacuate the bowels, it is the mercurial preparations only, that thus operate efficiently on the hepatic apparatus. Concurring in the design of subduing the febrile state, the antimonials, or the nitrate of potash, alone or combined, the neutral mixture, or any other mild febrifuge, may be usefully interposed.

Next, salivation is usually endeavoured. It has, however, been made a question by some, whether we should resort to it at the onset, or wait for the reduction of the phlogistic condition. But in my opinion, there can be no doubt of the preference of the latter course. To do otherwise, would indeed be, for the most part, nugatory—since, while there is much vascular excitement, mercury will rarely act, and, if it succeed, it only has the effect of exasperation, by the irritation it induces, preventive of the resolution of the phlogosis. Yet in India, pretty generally, and occasionally in our own climate, an opposite practice is pursued. The expediency of salivation, under any circumstances, or at any stage of acute hepatitis, is very doubtful with me. Nor is this view peculiar to myself. By a late writer of great authority on the diseases of India, the following language is held. He says, "I am anxious in the acute affections of the biliary organs, to avoid the constitutional effects of Calomel, because, I believe, that when these are pro-

duced, the energies, and vital resistance of the system are thereby impaired, and the presence of this mineral in the circulation tends to keep up in the inflamed part, a degree of excitement and irritative action, which would otherwise subside, and which I am persuaded tends in many instances, when allowed to proceed, to occasion chronic derangements of the viscus, and even abscesses, if the inflammation be seated in the glandular structure of the organ.*" Conformably to my own experience, it is far better in every respect, at this period of the case, so to manage mercury, as to attain its alterative, or revolutionary effect on the secretory functions, and which is to be done by small doses of calomel, or the blue pill, with opium and ipecacuanha, occasionally resorting to a mild laxative.

No plan of cure, however, will uniformly succeed—and, in defiance of our exertions, suppuration may ensue. Yet this event, though common in the intertropical and other very hot regions, is rare in temperate climates, and with us, may almost invariably be traced to negligent, inadequate, or no treatment at all, among the poor and vicious classes of society. The suppurative process is usually denoted in its approach, by an increase of pain, and sense of weight, and enlargement in the affected part—by a full, hard and active pulse, and the indications generally of more violent excitement.

Being completed, or in other words, the abscess existing, there is a remission of pain, or rather, it is exchanged for a dull, obtuse, sensation, or, as occasionally happens, throbbings, or pulsating sensations, and, at the same time, there are rigors, with irregular exacerbations of fever, attended by flushes of the face and nocturnal sweats. Three heteroclyte symptoms, now and then occur, in this state of the disease. These are, a feeling of formication throughout the skin, an inability to sneeze, even when the strongest sternutatories are applied, and numbness, or loss of motion in one, or both of the lower extremities.

Even in the suppurative stage of the complaint, mercury has been recommended, without, however, any advantage. It is a fact, not generally known, though I have seen it abundantly verified, that mercury will hardly operate specifically in any disease, during the suppurative process, and which is strikingly exemplified in venereal buboes, where it exercises not the slightest influence. The two actions are incompatible, or that of the remedy is too feeble to overcome the morbid one.

An abscess may take such a direction inwardly, as not to be recognised. But pointing externally, so as to be perceptible, it should be matured by poultices, and then punctured. Cures, when the matter is thus let out, often follow, and very seldom, if it be permitted spontaneously to discharge. This is in conformity especially with the observations of the East India writers, and, perhaps, is readily explicable. By timely evacuating the contents, disorganisation is arrested, which otherwise becomes irreparably extreme.

From an indisposition to adhesion between the liver and parietes of the abdomen, the operation, however, is alleged to be not always safe, as an escape of the fluid into the peritoneal cavity may take place, and hence it is deemed prudent, previously to performing it, to endeavour to secure such adhesion. The expedient, hitherto adopted with this view, has been the establishment of a caustic issue over the affected part, which having failed in several instances, and death consequently resulting, is now much distrusted. It is proposed, as an efficient substitute, to make

* Annesley, p. 424.

an incision at the most prominent point, down to the peritoneum, keeping open the wound by pledgets of lint, and I have heard of some instances of its complete success. But though suggesting this new expedient in the case, it may be right to mention, that I have myself, or seen others operate in several instances, without regard to it, and no detriment accrued, the adhesion being perfect.

The abscess having been emptied in any way, or, indeed, while the matter remains, there is usually much debility and irritation, and the system is to be soothed by opiates, and sustained by a cordial, though mild diet, with the aid of tonics, particularly the nitric, or nitro-muriatic acid, which under such circumstances, may prove highly serviceable.

Need it be remarked, that during the inflammatory stage, the regimen ought to be strictly antiphlogistic, to be continued in the convalescence, and for a considerable time afterwards, with very little change, and, to prevent a relapse, the patient, when practicable, should remove from a miasmatic district, and forever abstain from gross, or stimulating food, and above all, alcoholic liquors.

II. *Chronic Hepatitis.* It has hitherto been the custom, from the vagueness of information on the subject, to include under this denomination, nearly every protracted lesion of the liver. Granting, that most of these affections originate from, or acquire inflammation in their progress, it is no less true, that others are independent of it, throughout all their stages, and hence, differing totally from them, in their pathology, and treatment. Even as to the former cases, the term chronic, as importing duration only, very imperfectly expresses the real condition, which is mostly that of subacute inflammation.

But a name is not of much consequence, when the sense is well defined, and may be adopted, or retained conventionally.

Cullen would teach us to believe, that the difference in the two cases is owing to the investing tunic of the liver being phlogosed in the acute, and the parenchyma, in the chronic state of the disease. But the explanation is utterly unsatisfactory, and has been accordingly long abandoned.

The fact is that, under such circumstances, we should have two distinct pathological conditions, the one an inflammation of the serous, and the other of the cellular tissue of which the parenchyma consists. But, as previously remarked, it is only the last that properly can be considered as hepatitis, the former being peritonitis. An hypothesis equally absurd has been advanced by Saunders, who supposes in the first, the system of the hepatic artery is concerned, and in the second, that of the vena portarum.

Symptoms.—Chronic hepatitis is so diversified in its aspects, that it is not easy to delineate it, in any general description. Taken, however, in its most common presentation, there is considerable local pain, usually obtuse, though occasionally exasperated into intense agony, sometimes attended by the sympathetic ache about the clavicle, or scapula. Mostly, the weight of the liver is sensibly felt, and by pressure on the diaphragm may excite cough, or create embarrassed respiration. With these topical affections, we have an assemblage of phenomena indicative of general or constitutional disturbance, such as inveterately dry skin, of a dusky or icterose hue—often much depravation of the stomach, attended by a sense of fulness, costive bowels, and the stools clay, or state coloured, inodorous, or very offensive —scanty dark urine, sometimes depositing a pink or lateritious sediment, or it is only turbid, from a mixture of mucosity, the whole accompanied by

more or less fever—the pulse being quick, firm and corded, or, as sometimes happens, is intermittent, and otherwise irregular, from a loss in the balance of the circulation, by the impeded movements of the blood through the infarcted liver. Consequent on this state, hæmorrhage is apt to occur from the liver itself—or the blood being otherwise determined, from the spleen, stomach, intestines, the lungs, and particularly from the nasal or hæmorrhoidal vessels. In the progress of the case, the bowels become harassed by tormina or flatulence, or colliquative diarrhœa ensues, the discharges being dark, or light coloured, slimy, or watery, or muddy, and very fœtid. Emaciation, henceforward, rapidly takes place, with œdema of the lower extremities, which with other effusions, leading to general dropsy, is one of the modes in which the disease very frequently terminates.

The development of the disease, however, may be slower or less perceptible, so as to continue for months, or even years, without any manifestation of its existence, save a sense of fulness after meals with flatulence, sour eructations, palpitations, drowsiness, a disinclination to exertion, costiveness, depraved secretions, restlessness, and disturbed sleep, resembling, in the whole, original dyspepsia, for which it is usually mistaken, till the symptoms of hepatic affection are more unequivocally disclosed. Blended with this dyspeptic state, or independent of it, there may be in the advanced stage another train of secondary affections, as dry cough, or asthma, or other pulmonary lesions, or in other instances, a tremendous headach supervenes, recurring periodically, often eventuating, in children especially, in hydrocephalus, and, in more advanced life, in apoplexy or palsy. These are some of the ordinary aspects of the disease, which, however, are so infinitely varied, that it were impracticable, within any narrow limits, to delineate one half of its modifications.

Linked most intimately with nearly every part of the system, the liver, through the medium of its sympathies, either actually deranges them or simulates their affections. Extensive, too, as are these physical sufferings, our moral constitution is not permitted to escape. Even mania has been sometimes the result, and, still oftener, the deepest melancholy. Generally, however, the mind is gloomy, petulant, morose, despondent, the real being aggravated by fictitious afflictions, and in this reciprocal play of mind and body, a state may be induced, of which the vulture feeding on the liver of Prometheus is no exaggerated image!

Causes.—On the origin of chronic hepatitis, I have to remark that it is frequently the acute disease abated, though not cured, running into degenerations, or a primary condition of the same kind may be brought on by the slow and feeble impression of the causes already enumerated, as well, perhaps, as by some further agencies.

Combined heat and miasmata, however, are considered the most productive of the causes, and which may be so in certain regions, sometimes inducing the disease directly, though oftener entailing it as one of the sequelæ of autumnal fever, particularly the intermittent form of it. But drunkenness is, perhaps, little less influential among the vulgar in some sections of our country, and much may be ascribed to indolent, sedentary and voluptuous habits—in the higher classes of society, particularly in regard to eating. With the Romans, in the advanced and degenerate ages of the empire, the liver of geese became a choice luxury, and, to give it an enormous growth, the animal was nailed through its feet to one position, and crammed with food. What was thus effected in the goose is unintentionally brought about in the lazy and gluttonous geese of the human family!! The same result

takes place in cattle, hogs, and other animals, by high feeding in close confinement—they becoming what is called "*liver grown.*" Known to our farmers generally, the fact has been lately corroborated to me by the butchers of this city.

Nor can I help thinking, and on no slender grounds, that the extravagant use of mercury by many of our practitioners, in the treatment of autumnal fevers and other diseases, must also be assigned as a frequent cause of the chronic hepatic affections in some portions of the United States. More than any other article of the Materia Medica, at least, has it the power of exciting the actions of the liver, and it is a law of our nature, that all high excitement is followed by a correspondent degree of debility. From the circumstance of the prodigious employment of calomel in the cases to which I have alluded, amounting to several drachms daily, it seems to be no unreasonable supposition, that the hepatic apparatus, thus over-stimulated, should fall into collapse, and, in this condition of exhaustion, torpor to take place in the portal circulation, productive of congestion, eventuating in phlogosis, induration and other derangements. Doubtless in this mode do miasmata and high temperature, separately or unitedly, and the habitual consumption of ardent spirits operate to the same effect. As confirmatory of this view, it is stated, by Dr. Somervail, a most respectable physician, of the South of Virginia, who has practised medicine for nearly half a century in that section of the country, that till the introduction of mercury, a comparatively modern event there into the treatment of autumnal diseases, hepatitis was hardly known, and, subsequently, it has most widely prevailed. We have also seen, that it is the opinion of Annesley, whose opportunities of witnessing the effect were so ample, that the large use of mercury in the inflammatory stage of acute hepatitis, by an increase of excitement, has a tendency to induce chronic degenerations. That it occasions jaundice, most probably, by deranging the liver, will hereafter appear, as well on the authority of some cases which several years ago occurred to myself, as others, more recently reported, by highly respectable European writers, in support of the conclusion.

Be this however as it may, there can be no question whatever, that a very bad practice, in another respect, is a common cause of the disease. My allusion is to the premature and indiscriminate resort to stimulants and tonics, to the neglect of sufficient evacuations in our fevers—an evil which has immensely increased since the terror of typhus pervaded the nation. The abuse or misapplication of bark, wine, and ardent spirits, as remedies, I do believe has obstructed nearly as many livers and spleens as all the miasmata and heat of our climate.

Diagnosis.—Carefully traced, the symptoms I have detailed will, for the most part, satisfy us of the existence of chronic hepatitis, and, as regards enlargement and induration of the liver, all doubt may be removed by an actual examination, which is done by laying the patient on his back, his head low, and his knees drawn up, so as to relax the abdominal muscles, and simultaneously directing him to take a deep breath, to protrude the liver. But this organ may be much diseased without any enlargement, and even preternaturally diminished, so as not to be reached by any examination. Even the *tactus eruditus* will, in this application of it, fail. Nevertheless, there is one circumstance, without implicitly relying on it, which, I think, is entitled to great confidence. In every case of atrophy of the liver I have inspected, it had been marked during life by extraordinary palor of skin, even of pearly whiteness, or more of the hue of dingy white wax, exhibiting altogether an extreme exsanguineous condition and aspect. That an extreme penury of red

blood, the latter supplying the nutriment of organs, should lead to such an effect, is plausible in itself, though it is not so obvious why it is displayed more conspicuously in the liver. Yet peculiarities may be traced in the economy of that viscus, which might be made, perhaps, to account for the phenomenon.

Nor is the preceding the only source of perplexity. As incident to the liver as perhaps any organ, is a painful condition, entirely independent of phlogosis, which, from the analogy of some of the symptoms, might be misapprehended. It has hitherto been called hepatalgia, under which term is embraced nearly every *liver pain*, on whatever state it might depend, as the irritation or spasm, of biliary calculi, &c. Caused in any of these modes, there is little difficulty of discrimination, and, passing them over, I shall confine my remarks to an affection purely a neuralgia or nerve ache. Even, however, as to this pathological condition of the nerves, it may suffice, at present, to state that its prominent and peculiar features are the acuteness, the darting, fluctuating, and periodical nature of the pain, with the absence of fever, and other material hepatic or constitutional disturbance, in all which particulars differing from chronic hepatitis.

Diseases of other parts, however, may be mistaken for this of the liver. Chronic gastro-duodenitis, as well as the lingering inflammations of the colon, are of this description. Many of the cases of supposed hepatitis, on which I am consulted, turn out on examination to be intestinal lesions, and particularly of the arch of the colon, which latter indeed, I am inclined to suspect are far more common in every portion of our country than those of the liver. These lesions have, to some extent, a commonalty of symptoms, and hence the obscurity of the diagnosis. There may be pain in the right hypochondriac, sallow complexion, much gastric disorder, hectic irritation, and great vitiation of the alvine, as well as the urinary discharges, in the whole of which, resembling chronic hepatitis.

Called on here to pronounce the most certain criterion, I should say it may be found in the character of the stools—those in hepatitis generally indicating the absence of bile, while the evacuations in colonitis as uniformly betray the loss of the faculty of fæcation. This discriminating sign is, however, sometimes fallacious. The liver though much diseased, may be sufficiently sound in a part to secrete bile, and the colon so partially affected, as to elaborate some fæces. To show the difficulty of the diagnosis, I will mention a case. It was that of a man brought into the Alms House Infirmary, with nearly every symptom of chronic hepatitis. He had previously been treated for such, by one of our best physicians, who, supposing an abscess of the liver, pointing externally, punctured it, and let out about three pints of pus. The man dying soon after his admission, we found, on opening him, that the arch of the colon, in the right hypochondrium, had adhered to the parietes of the abdomen, forming a large sac, filled with pus, the liver being perfectly healthy.

Prognosis—Not more can be affirmed, with certainty, in regard to the prognosis, than that a considerable portion of these cases is curable, though only when the lesions are slight, and of no very long existence. Extensive, and confirmed injuries of structure are irremediable. Yet it often happens, that life is indefinitely protracted, where the liver is greatly affected, owing to a part of it remaining sound, and adequately performing the function of the secretion of bile.

Lesions.—The liver is found on a post-mortem examination, generally of a gray, or ashy hue, and altered in shape and dimensions, as well as texture, sometimes prodigiously enlarged, or conversely, wasted to a very diminutive

size, preternaturally hard or soft, tuberculated or interspersed with a collection of small abscesses, or one or two large ones, the latter among us, more common in the chronic than acute disease, the fluid contained being purulent or sanious, or of a caseous nature, or in place of abscesses the substance of the viscus converted into a cheesy, steatomatous, tallowy, cartilaginous, or osseous matter, or now and then, studded with hydatids. Examples of ulceration, even cancerous, occur, and in one instance at least, the whole of the parenchyma was removed by its ravages, leaving only the vessels, resembling a corroded preparation of the organ, as in the case of the celebrated Sir William Jones, who died in Bengal. An occasional event, is that of an extraordinary growth of the liver, without any material change in its structure, constituting a mere hypertrophy. The most remarkable instance, perhaps, of this kind on record, is one where the liver weighed forty pounds. But with enormous developments, it is generally diseased. We are told by Johnson, that he has seen it "of all sizes, and extending from the margin of the ribs, to various depths of the abdomen as far down as the pubes." Gooch gives a case where it weighed twenty-eight pounds—Baldinger another of twenty pounds—Bovet a third of eighteen pounds—and Mr. Abernethey one, which filled the whole cavity of the abdomen, without, however, his stating its weight. In several instances, I have seen it myself, of a very great size, though always much disorganized.

Not long since, I examined a case, where it occupied more than half of the abdomen, and weighed between fifteen and sixteen pounds. Considerable portions of it were scirrhosified—tubercles abounded—the gall bladder was greatly distended, and contained sixty-eight very large encisted calculi. Eight inches of the colon firmly adhered to it, and so embedded and incorporated with its substance, that it were difficult to have separated it even by dissection. The stomach, preternaturally small and apparently sound, was thrown out of its proper location, and laid vertically, in the left hypochondriac, concealing a very diminutive spleen—considerable scirrhosity of the pancreas existed, while the residue of the abdominal contents seemed only to be anormal by a reduction of dimensions.

An overgrowth of the liver to nearly an equal extent, as in the foregoing case, terminated the existence of the late Chief Justice Marshall. By the magnitude to which this viscus had attained,—the stomach, dislocated from its natural position, was forced into a perpendicular direction, its sides pressed into contact by the liver, so as to obliterate its cavity, and he being unable to retain nourishment, for it was rejected as soon as swallowed, finally sank from inanition, after a lengthened continuance of unmitigated sufferings. Thus perished this truly great and good man, leaving a void in a sphere of usefulness, which, in the eloquent language applied to another illustrious personage, no one could be found to fill, or who had even a tendency to fill, and bequeathing to his country a name, that makes it advantageously known in every enlightened portion of the world.

"Clarum et venerabile nomen
Gentibus, et multum nostræ quod proderat urbi."

Pathology.—Not much need be said of the pathology of this series of hepatic affections. Many instances resulting from the imperfect cures of acute hepatitis, may with propriety be considered as a more advanced stage of the same disease.

Commencing idiopathically, the case assumes the modification produced by a slower and more feeble progression of a similar morbid process. There is an identity, or nearly so, in the kind of action, though varied in the degree

of activity and intensity. But while some of the pathological phenomena are to be deemed the ordinary results of inflammation, those of the more irregular deviations, consisting in new formations of structure, must be referred to vitiations in the nutritive functions.

It is by such interstitial depositions of scirrhous, steatomatous, tubercular, or other matter, that the character of the liver, or any other organ is altered, and being heaped on in excess, and without the plastic hand of nature to model it, exchanges its definite configurations, and dimensions, for the rude, enormous, and anomalous shapes, which these masses occasionally present.

Tracing the progress of this collection of anormal processes, it seems probable, that the first step, in most instances, is an undue afflux of blood to the liver, productive of congestion, which, disturbing its economy, leads on to those further changes, by which nutrition becomes irregular and depraved, each being a link of a consecutive chain. That the liver receives blood, under such circumstances, at the expense of the other abdominal contents, is presumable, from its undue growth, and by the diminished size of the organs with which it has the most immediate vascular connections.

As far as I know, this fact which, of late, has attracted some attention, was first promulgated by myself. Many years ago I suspected it, and all my subsequent inquiries in reference to it, have lent to its confirmation. The converse I have reason to believe to be equally true, or when there is an atrophy of the liver, and of an indurated texture, the spleen especially, is in the same proportion, increased in bulk and disorganized.

Treatment. From the difficulty of determining the precise condition of the organ, our practice is marked by no nicety of distinction, or exactness of remedial application in these affections.

An examination, as we have seen, may in some instances satisfy us of its enlargement. But whether this be owing to chronic phlogosis simply, or to any of the more formidable changes of structure, which have been noticed, no human perspicacity can positively divine.

Nor must we forget, that the liver may be most seriously affected without any augmentation of growth. Confiding in symptoms, or indeed any other signs, we shall generally be not a little perplexed, and very often egregiously deceived.

Believing however, that the case consists in no material structural lesion, that it is of comparatively recent date, and is caused merely by chronic phlogosis, or incipient induration, and these perhaps are the only curable states, the treatment best calculated to afford relief, is made up of moderate and repeated venesection, of the use of cups, or leeches, to be followed by a succession of blisters, or a caustic issue, over the region of the liver, aided by occasional purgings. An impression thus kept up on the intestines, does much to restore the healthy exercise of its functions. Calomel should be freely given, with this view every two or three nights, to be worked off in the morning with caster oil or Epsom salts, or magnesia, alone or united—and, perhaps, something is gained by the addition of the tincture of colchicum to the latter combination.

Among the secondary measures, various other deobstruents have been proposed, the gum ammoniacum, the taraxicum, &c. The former of these was much confided in by the late Professor Wistar, and several of the German authorities, whether on sufficient evidence of its utility, my own experience does not enable me to say. But in regard to the latter, I have much reason to suppose that it sometimes proves serviceable. It is particularly praised by Boerhaave, Bergius, Zimmerman, and other writers of the

continent of Europe, and also by Pemberton of England, in his work on the diseases of the viscera. Either the extract, or juice of the fresh leaves, is usually directed. Confirmatory of the efficacy of the latter, I have to state a fact which I learnt from a very intelligent grazier, that cattle penned during the winter, becoming what is called *livergrown*, are very soon relieved by being turned into fields in the spring, abounding with dandelion. The annexed I have found an excellent prescription, in the dose of an ounce, or more, several times a day.*

Means of this sort failing, we are next to resort to a course of mercury. But here a salivation, particularly a deep one, is in all cases to be avoided. The object is to bring back the organ to its natural state, to be effected by an alterative operation. Minute doses of calomel, or the blue pill, with opium, are to be insinuated till the system is perceived to be under its impression, denoted chiefly by an improvement in the secretions, and which is to be maintained, without abatement, for several weeks, and in the more inveterate cases, with occasional intermissions, for months.

In the use of mercury, however, some discrimination is demanded. Its salutary effects, under all circumstances, may be mainly ascribed to the promotion of the biliary, and other secretions, and failing to do this, it proves inert and nugatory, or causes a pernicious state of irritation, or positive phlogosis, with an irregular febrile movement. In the management of the chronic affections of the liver of every description, these are considerations which should invariably control its employment—continuing or discarding it, according to the mode in which it affects the system. Not a few instances I have seen of hepatitis as well as of jaundice, in which the condition was most unequivocally deteriorated by neglect of these practical maxims, and some, where irreparable mischief was entailed by a lengthened persistence in a mistaken course.

Disappointed with the internal use of mercury, or the bowels being too irritable to retain it, inunctions may be employed. Nitro-muriatic acid externally, as well as internally, is substituted for mercury, where the latter has proved ineffectual, or, for any reason, is deemed inadmissible.

It may be added, that, internally, some of the preparations of iodine, and still more frictions with the ointment over the right side, have been used, and that we are not without proof of their success. Yet I have seen nothing myself to inspire any very great confidence in their efficacy. To assuage pain, or to procure rest, or to remove undue irritation, opiates on the whole are to be preferred, though the cicuta, henbane, belladonna, stramonium, &c., may be tried.

That, in these cases, reliance is placed mainly on mercury must be apparent, and in recommending it, having previously mentioned it as one of the causes of the disease, it may seem that I am guilty of an inconsistency. But such an imputation is not just, and cannot be sustained. It is against the abuse of the article I protest: and do not instances occasionally present, where the same agent is the cause and the remedy of the disease? This indeed is so true that we have the old aphorism, "similia similibus curentur." Take for illustrations of it, delirium tremens, the atonic states of the stomach from intemperance, &c. Do we not frequently resort to that very stimulant as a cure, which, improperly used, had produced the condition we are endeavouring to redress? Like the fabulous sword, the rust on which healed the wound inflicted by its point, mercury here cures the mischief it had occa-

* R.—Infus. Tarax. ℥iv; Extr. Tarax. ʒij; Carb. Sodæ ʒss; Tart. Potass, Tinct. Rhei āā ʒiij.—M.

sioned. Even admitting that the case of hepatitis, we are called to treat, could be indisputably traced to the undue employment of that article, it would still be the appropriate means of relief. The liver being torpid, we should recur to mercury, from its well known specific powers of exciting and restoring its healthy functions.

An exception, however, may be found to the use of mercury in the atrophic state of the liver connected, as formerly described, with a defect in the process of hematosis. It is here the most pernicious of medicines, and, in place of it, the martial preparations, the phosphate of iron *par excellence*, with a well regulated animal diet, and exercise substituted.

Finally, I have to remark, that these hepatic affections, even when pretty well eradicated, are very apt to leave behind a very impaired state of health, manifested chiefly in derangement of the digestive functions, with general debility and wretchedness of feelings. As this, however, constitutes a distinct pathological condition, interesting as it is, I cannot properly enter now into the consideration of it, and must be content to refer, as a guide to its treatment, to what is usually done in the inveterate forms of dyspepsia.

III. *Congestions of the Liver.*—From the peculiar character of the circulation of the liver, which is more venous than arterial, we might presume its liability to this pathological condition, independently of the direct evidence of the fact. Its acute affections, indeed, of which I have already treated, participate of this character, and especially in the early stage. But it is soon supplanted by inflammation, or, if any of it remains, it is in so subordinate a degree as to lose all prominency, and may be completely masked or concealed. Engorgement simple, or unmixed with any other lesion, is the state to which I have now reference. This occurs under very different circumstances, exists in diverse proportions, either partially or to a great extent, and varies in its nature.

Symptoms. An attack, for the most part, is very sudden, or with little or no premonition. Extreme languor, however, may be previously complained of, soon followed by chilliness, with some degree of collapse—while, in other instances, these precursory symptoms are altogether absent. But, whichever may be the mode of aggression, a developed case of violence is characterized by sensations of fulness of the liver, sometimes amounting to an uncomfortable ache, or even positive pain, attended by an evident distension of the region of that viscus, and tenderness on pressure—by short, panting, and laborious respiration, by nausea, and sometimes vomiting and cramps of the stomach or bowels, and by a weak and emptied or a full, struggling, interrupted pulse, without any febrile reaction, and occasionally by hæmorrhage. But, on the contrary, where the attack is lenient, or more gradually comes on, most of these symptoms at first are wanting, and the affection has actually endured for a considerable period, with scarcely any inconvenience, or other evidence of its existence, save that derived from an inspection of the right hypochondrium.

This affection is often one of the introductory symptoms of the cold stage of malignant autumnal fevers, especially intermittents of this nature—and I once met with it proceeding from the immediate influence of an exposure to the low temperature of an ice house—and, in another instance, from a copious draught of intensely cold water, when the system was heated and fatigued. Examples are also reported of its being brought on by impediments to the circulation in the right side of the heart, leading to an accumulation of blood in the liver, and we are told by Andral that it may be occa-

sioned in the fœtus, by some mechanical cause, during parturition. But, though sometimes it is thus induced, the case which I have more immediately in view is generally assignable to extreme heat, separately or combined with miasmata, of the effects of which, there is abundant proof afforded in our hot, low, marshy districts of country.

Diagnosis. From hepatitis this condition, when well marked, may be distinguished by the suddenness of the invasion, the exemption from fever, the peculiarity of the circulation, the obtuseness of the pain, the comparatively slight sensibility to local pressure, and the aspect of collapse and exhaustion.

Prognosis. Engorgements of the liver, heavily oppressive, are always alarming, and still more so in proportion as they are passive, or occur in the feeble, or during an epidemic prevalence of fevers. Differently circumstanced, they prove of far easier management, and are often speedily relieved.

Dissection reveals appearances according to the gradations of the affection. It having been vehement and extensive, we find the liver swollen into large dimensions, with little change of consistence, and of a reddish purple, or of a dull brick hue. Dark blood, on an incision into it, flows out very freely, and the interior structure is very much of the colour of the external surface. Both the large and the small vessels are prodigiously injected, the blood still retained in them, though sometimes there are extravasations of it in clots, and in other instances, infiltration of it through the parenchymatous texture, constituting an *hepatic apoplexy.* These effusions, as well as the more copious hæmorrhage, which may occur, seem to be owing chiefly, to an exhalation from the minute extremities, and not to a rupture of any great vessel—such an event having been very seldom observed. The lesions, however, which I have described, may be more partial, or limited only to portions of the liver, the residue of the organ exhibiting little, or very slight aberrations from its natural aspect and condition.

Pathology. Contemplating the phenomena of this case, in its ordinary exhibition, it clearly appears to consist in passive, or very atonic congestion, from a loss of that power in the vessels by which the circulating movements are maintained. The same view is held by a celebrated writer, (Andral,) who goes even farther, and declares, that in the worst form of it, at least, "the blood collects in the liver exactly as it does in the gums in scurvy." Nevertheless, it is very conceivable, though I confess, I have never witnessed such an instance, that the affection may present much greater activity than has been represented. It is, however, probable, that any high degree of such a state, could not long be continued, from its tendency to bring on inflammation, by which conversion, we should have hepatitis.

Whatever notion may be entertained of its pathology, the great aim in the treatment of the affection, must be to remove the concentration of blood, and with integrity of constitution, this is undoubtedly best effected by copious venesection. But if it be not admissible to such extent, or tried without success, then to resort to cups over the affected part. Great advantage is derived from emetics, owing doubtless to their power to emulge, or unload oppressed organs, and to re-establish an equal circulation. Nor is purging with calomel, on the same principle, of scarcely less efficacy. Blisters are also useful. It will, indeed, be often found the best practice in the weaker congestions, and especially when the vital forces are very languidly exercised, that while depleting, to employ stimulants the most diffusive and energetic. But to discuss this point as it deserves, would require a wider range than I can now appropriate to it.

That such hepatic congestions, as I have had in view, ever become chro-

nic, does not very clearly appear, unless the state which I am next to notice, may be so deemed. My allusion is, to what has hitherto been called:

IV. *Hepaticula.* This term is a diminutive of hepatitis, and was adopted to express the smallest degree of the chronic state of the latter disease. It may, perhaps, in this sense, be sometimes properly applied, though I am inclined to believe that the affection to which it is appropriated is, for the most part, independent of inflammation.

The pathological condition, considered as hepaticula, is characterized by a sallow complexion, more of the lemon than orange tinge, or sometimes by a dingy white—by much laxity of the integuments, with the aspect of bloatedness, particularly of the abdomen, which is exceedingly tumid—occasionally œdema of the lower limbs—dry, husky, unperspirable skin—shortness of breath on the slightest exertion—costive bowels—clay, ash, or slate coloured stools—deficient, dark, or loaded urine—sluggishness of body—hebetude of mind—pevishness of temper, and dejection of spirits. The pulse is mostly little affected, sometimes, however, feeble—while, in other instances, it is full, slow, and may be intermittent, or otherwise irregular. No acuteness of pain is felt in the region of the liver, or tenderness betrayed on pressure, the complaint being rather of a disagreeable ache, or a severe sense of distension. This state of things may continue for a long period without much alteration, prone, as it generally is, to further degenerations. Commonly these are a wasting, slow, irritative fever, heightened by an exacerbation at night, subsiding with copious perspiration, ultimately followed by colliquative diarrhœa, or it more speedily eventuates in hæmorrhage of dark blood or general dropsy, or the whole united, or some other fatal disorder. It is familiarly called throughout our Southern States, where it abounds, INWARD FEVER!

Examples of this affection are to be met with among persons of all ages, though more so in children, habituated to the influence of miasmata. Being partially acclimated, as it were, this cause of fever, and of the more special disturbances of the liver in such positions, operates with comparative lightness, and hence the only sensible effect is to swell and derange that organ. But it is also consequential sometimes on ill-cured intermittent and other fall fevers.

To discriminate between this affection and chronic hepatitis, may be embarrassing on some occasions. Much, however, is to be learnt, with this view, at all times, from the general physiognomy, and the usual absence of acute pain, and the other incidents of positive inflammation, are very decisive.

Commonly, in the beginning, or at an early stage, the affection is easily removed, and reversely when it becomes inveterately fixed by neglect or improper management—changes having then taken place on which salutary impressions are rarely made.

Of the anatomical characters, I am not very accurately informed. The liver is mostly enlarged, sometimes enormously, with a firmer texture than natural, though I have seen it softer, and retaining pretty nearly its ordinary colour—the external surface, being seemingly little affected, whether of the serous covering, or of the organ itself. Dissection of it shows excessive congestion, and dark blood issues forth very copiously. Few traces of unequivocal phlogosis have I observed. Differing from all this, the liver is occasionally found of reduced dimensions, even actually atrophied, of a pallid hue, and of a condensed consistence, with defective vascularity. No doubt other, and perhaps more important, alterations take place, and, indeed, may have been reported, of which, however, I have no knowledge.

From this account it is, I think, to be inferred, that the real pathological condition of the case is, that of venous engorgement of the liver, induced by torpor of the portal circulation, from the constant exposure to the operation of miasmatic influence. But such a condition cannot long endure without a tendency to further lesions—and it is reasonable to presume that these, in some instances, do occur, even inflammation and its consequences.

In the management of these cases, we must be governed essentially by the state of the system. The loss of blood, generally or locally, will be demanded where there is an increase of vascular action, or any considerable fulness in the affected part, to be followed by counter irritation. But, this exasperated condition not existing, we may at once commence the use of purges, selecting those articles which operate more directly on the lower portion of the bowels. Combinations of calomel and aloes, with the compound extract of colocynth, are well suited for this purpose, and an application of leeches around the anus will be found very advantageously to co-operate in the design of diverting the circulation from the liver to the rectum. An alterative course of the blue pill may next be tried, and also the nitro-muriatic acid externally. The vapour bath is, moreover, very useful. Cases I have repeatedly seen benefitted by it, and some where cures were promptly and completely accomplished.

In the leucophlegmatic variety of this affection, usually associated with an atrophied liver, or indeed under any circumstances, of much debility, the best remedies are the martial preparations, especially the phosphate of iron, aided by a nourishing diet, exercise by swinging, or on horseback, or a long journey if practicable. But, above all, should the individual live in a miasmatic district, let him escape from it, by which alone cures are often effected—and this is an additional reason with me for supposing that no essential disorganization exists in the case.

It remains to remark, that in many instances of protracted hepatic disturbance, whether inflammatory or otherwise, after our best exertions have proved abortive, relief is afforded by resorting to our mineral, particularly the Sulphur springs, the best of which are those of Virginia. Eminently, however, as these are entitled to commendation, I am persuaded that not less may be derived from the thermal baths of the Warm and Hot springs of the same neighbourhood, each being adapted to meet different indications, and should, perhaps, be brought to co-operate in the treatment of most cases of chronic hepatic disease.

MEDICAL EDUCATION AND INSTITUTIONS.

ARTICLE X. *The Gleanings in the East of a ci-devant Invalid, in* 1838. By VALENTINE MOTT, M. D., of New York.

AMIDST the political and moral degradation of the Egyptians, we were delighted to witness the attempts at the formation of a medical school, and the establishment of well educated medical men among them. The countenance and protection given by the Pasha of Egypt, Mahomet Ali, to Europeans to reside in the country, is every where apparent. French, Germans, Italians and English are to be met with filling important and responsible stations in the army, navy, medical school, and about the court and person of this celebrated eastern despot. Whether this be for selfish, or humane objects, is a question which must naturally arise in the mind of every observer, who travels in that country; and there are few, we think, who will not ascribe it to the former. But a great general good to the Egyptians must nevertheless flow, from this almost only wise policy of their cruel and hard master.

From a fear too no doubt, that a sufficient inducement could not be held out, for foreigners of merit to take up their residence in this benighted country, the Pasha has from time to time been in the habit of sending to the medical schools of Europe, and particularly of France, a number of young Arabs, to be educated at the expense of the government. In this way a ready communication is had with the foreign practitioners and the native eléves of the country, who assemble in the hospitals and medical schools, until the former have acquired a sufficient knowledge of the Arabic language to impart instruction to them in their native tongue. In this way we have witnessed the lessons of the professor conveyed to the pupil by a young Egyptian physician who had been educated in Paris, French being the language used for this purpose. The Arabic, as I was informed by the professors, is extremely difficult to be acquired, and those only who had resided in the country for eight or ten years, were able to read it and above all to speak and understand it sufficiently well to hold intercourse with the natives and impart instruction directly to the pupils.

The medical school of Egypt, which for some years has been located at *Abou-Zabel*, is now removed to *Esbekie*, in the immediate vicinity of Cairo; the former being too remote from the capital, to enable the professors, from their necessary duties in private practice, to do full justice to the institution. The school makes part of a large and well arranged military hospital, beautifully and pleasantly situated on the western bank of the Nile, in the suburbs of Cairo. This hospital contained thirteen hundred patients when

we visited it. The immediate connection of the medical school with this large hospital, together, making one great edifice, is in my opinion an admirable arrangement for the benefit of the pupils, and well deserving of imitation in other and more enlightened countries. The lecture rooms of the professors are all exceedingly well arranged, and the amphitheatre for anatomy is particularly well constructed, with an abundance of light from a cupola on the top. A large and well arranged pharmacy, with specimens of every kind of domestic and foreign drug, while it abundantly supplies medicines to the wants of the hospital, serves as a means of instructing the students. A large laboratory is connected with it, in which the new chemicals, such as alkaloids, and others, are prepared, to answer the demands of the physicians, and at the same time extend information to the pupils, by making them acquainted with chemical pharmacy.

The number of pupils attending the lectures at the time of our visit, was two hundred and sixty. They are not only attendants upon the lectures of the professors, but residents in the hospital, in order to observe the treatment of the patients, and to become familiar with the almost endless forms and features of disease.

They are all educated at the public expense, have their quarters in the hospital, where they eat and sleep, and are obedient to a regular military and medical discipline, and rank as *sous aides*, in the surgical staff of the army. Here they are compelled to remain from three to four years in the constant pursuit of their studies, and in the regular observance of disease, at all times obedient to the call of their superiors, and ready to administer to the wants of the patients.

The beautiful order and methodical arrangements, as well as neatness, in every part of this establishment, surprised and delighted me. It unites the activity of the French, with the cleanliness and good system of the German hospitals, and therefore may be said to have the excellence of both.

The anatomical museum is very respectable, and will serve as the nucleus of a good collection. It consists mostly of bones, casts, and wax models, with the excellent tributary aids, of parts, and the whole subject, of the ingenious invention of Doctor Auzoux. From the expense of alcohol, and the great waste, owing to the excessive heat and dryness of the climate of Egypt, few or no specimens of morbid parts can be preserved as wet preparations. They are compelled to resort to drawings and wax models, to perpetuate their similitude.

The apparatus for the illustration of the physical sciences is neat, and sufficiently ample.

The Civil Hospital is situated in the city of Cairo, and is located in a spacious building, but recently one of the palaces of Mahomet Ali. It is placed very favourably for good air, near the principal square of this very curious and truly oriental city. It is an admirable transfer of the noble and superfluous domain of a single individual to humane and charitable purposes, to the wants, necessities, and the afflictions of the poor and the diseased. As the medical officers informed me, it had only been established about one year, and was but a beginning of an asylum, and a home, for the suffering and the sick.

It contained between two and three hundred patients, besides apartments, especially appropriated for a lying-in establishment. Although there is a male and female department in the same building, there is the peculiar eastern vigilance, and harem-like care, that the females shall not even be

seen by the male patients. On no pretence, whatever, is any male admitted into the female part of the hospital unless he be a professional man, and then he must accompany a medical officer of the establishment, who only has authority to introduce him.

Connected with this maternité, is a school for the education of young women, to fit them properly to be accoucheuses or sages femmes. It has a well organised class of young females from the age of fifteen to twenty, under the care of a French professor, aided by a young Arab, whose acquaintance with the French language enabled the pupils to comprehend readily the lessons of the principal. The class consisted, on the day of our visit, of sixteen. They were dressed as Europeans, were very neat and respectable in their appearance, and exhibited various tints, and shades of colour, from the tawny Arab, to the jet black Nubian and Abyssinian.

They were all assembled in the class, at their lessons, when we entered, and were receiving instruction from the professor. Their note books were in Arabic and French. I was requested to test the practical knowledge of one of them on the mannikin. One, the most convenient, and as black as ebony, was requested to come forward. Different questions in French were put through the young Egyptian, and on the machines the pupil proved by her manipulations with the fœtus, that she not only comprehended perfectly the question, but that she understood well the subject.

When their knowledge is thought sufficient, they are permitted to exercise the art upon the patients of the institution. In this way, after a residence of some time in the hospital, subjected to regular discipline and instruction, they become very competent practitioners of this branch of the profession. They informed me that all of them were educated at the expense of the Pasha, and that his object was to place them in the harems, and thereby dispense with male obstetricians; that Mahomet Ali, from time to time, was in the practice of purchasing young females at the slave market at Cairo, and placing them in the maternité for instruction. In this way he kept up a constant supply for the wants of the different harems of his family and favourites.

This establishment is undoubtedly founded upon the liberal and humane plans of the French, who annually educate, and send forth a large number of well instructed and competent young women, not only in every direction through their own provinces, but into other countries. It is to be hoped, that in Egypt, a more enlarged and liberal view will be taken of this system, and ere long that its salutary and benign influence, will be extended, far beyond the gardens and walls of the harems; and that the almost countless poor, may receive something in return for what they labour so hard to support.

Every facility seemed to be afforded in this obstetric school, in preparations, apparatus and instruments, as well as the living subject, to make the pupils competent and useful practitioners.

An attempt is making at Athens, the present capital of the modern Greek empire, to organize a medical school, by several well educated and respectable Bavarian physicians and surgeons, who are attached to the court, and whom King Otho has induced to settle in his country. At the time of my visit, (April 1838,) they had from nine to twelve pupils, natives of the country, who were lectured to by the Germans in the modern Greek language; the professors from a residence of several years in the country, being able to impart instruction to the pupils in their native tongue. Although

it is the merest beginning of a medical school, it is nevertheless praiseworthy and honourable to its present founders, and may be the germ of an institution, which shall move onward hand in hand, with the regeneration of poor fallen Greece. It may be, that from this embryo of a medical school, in far distant time, the continent and the islands may echo again with the fame of another Hippocrates, an Erasistratus and a Heriophalus.

Athens possesses at this moment a most excellent military hospital, arranged upon the modern European plan, capable of containing very comfortably several hundred patients. Also a highly respectable and well arranged cabinet of Natural History.

Even in the mighty capital of the Ottoman empire, Constantinople, the light of medical science is beginning to dawn. A medical school is already commenced, under the sanction of the noble, and enlightened Sultan Mahmoud. The teachers are all Europeans, mostly Italians, and they are giving instruction to from fifteen to twenty native pupils.

From what I saw of the diseases of Greece, both in the hospital at Athens, and in the practice of two of the physicians attached to the court of King Otho, they appear to be generally of an inflammatory character. This is especially true with those of a febrile form, and the brain seems to be the organ in which this is most particularly manifested. All their endemic fevers commence with strong synochal symptoms, and are remarkably fatal to new comers during the cerebral determination. If they escape from this stage, they are precipitated very speedily into a profound typhus, or it assumes an intermittent fever of the quotidian or tertian types. These latter, continue with great obstinacy in defiance of quinine and arsenic, and frequently terminate fatally in general hydropic effusions, and hypertrophy of the spleen.

The Greeks are generally a very temperate people, and from living in a mild climate, subject to few sudden variations, and an atmosphere the purest and possessing a clearness and transparency that far exceeds any thing I ever met with in any other country, are consequently a hardy and vigorous race. The great distance at which an object can be seen, and the deception thence arising in the computation of hours or miles in travelling, was a frequent remark with my companions and myself, and we found that the same thing had been noticed by foreigners resident in the country.

It ought to be recollected by all who visit Greece, that an abstemious mode of living, and particularly great moderation in the use of stimulating drinks, is essential to the preservation of health. From my own observation less wine can be borne in that climate, than in any I ever visited. Every year at Athens I found that the endemic fever was fatal to many Europeans, from imprudence in indulging in their accustomed quantity of stimulating drinks, particularly wines. Although the wines of the country generally, are not agreeable to travellers, from a strong terebinthinate impregnation which they give them and which they consider one of their excellent qualities, the good wines of France and Spain are to be obtained at Athens and Romania di Napoli; and at the latter places the delicious wines of some of the Islands of the Archipelago, as Samos, Tenedos, &c. may also be met with. All these wines, though lighter and milder than those of Europe generally, ought to be indulged in sparingly.

An autopsy, which took place during my visit to Athens, confirms the statement above made of the inflammatory character of the febrile diseases, and that the serous membranes of the brain, the arachnoid and the pia mater are the seat of inflammation. From a single case no one would be war-

ranted in drawing a general conclusion, but when that case is said by professional and competent judges, to be a good specimen of the common appearances after death, it authorises the induction.

Shortly after my arrival at Athens, I was waited upon by Dr. Razor, physician to the Queen, to witness an examination of the body of a favourite *femme de chambre* of her majesty, who had died after a few days illness of fever, attended with great cerebral determination. As he anticipated and predicted there were evidences of inflammation of the two inner coverings of the brain, with serous effusions, between the dura mater and arachnoid membrane to account for the fatal issue of the case.

The *Lepra* of Greece, I had long felt a great desire to examine, and took the opportunity of visiting some cases of it through the politeness of Dr. R. and of making numerous inquiries of him as to the general character and treatment of this ancient and curious disease. It bears a very striking resemblance to the venereal disease, in its primary and secondary or confirmed stages. So marked indeed is the coincidence, that it does not appear to me to be going too far to say that it may be the parent or progenitor of lues veneera. It attacks primarily the genital organs, then the throat, skin, and lastly the bones. It is generally a more chronic affection than lues as we commonly see it, but it assails the same parts and resembles many cases of lues, such as I have often seen; so much so, that Dr. Jackson of New York, my travelling companion, as well as myself, confessed, that it would not be in our power to discriminate between them. The lepra on the genitals, and in the throat is commonly attended with more hardened and elevated ulcerations, with more hypertrophy of the surrounding tissues, than ordinary cases of lues, but such precisely, as I have seen in the venereal disease. The affection of the skin resembles the worst and most vitiated forms of syphilitic eruption, such for example as the large elevated, conical and concentric scab.

Such is the horror that the Greeks have of this disease, that they abandon their dearest and best friends; and the unfortunate victim is frequently obliged to seek refuge among the beasts of the field, and in the recesses of the mountains. An instance of this I saw in the plains of Argos, of a wretched man, affected with this loathsome malady, shunned by every one, friendless and homeless. Even when it appears among the better part of these people, it is considered a sufficient ground in either sex for a divorce, and it is sanctioned both by the civil and ecclesiastical laws.

Lepra is no longer considered as an incurable disease. It is more intractable and obstinate than common forms or cases of lues venerea, but is found to yield to proper treatment. The remedies most successful, are the same as in syphilis—mercurial and arsenical. Of all the forms of mercury, the corrosive sublimate, with sarsaparilla, is found the most efficacious. In obstinate cases, after the mercurial treatment has been long continued, without curative effects, the arsenical is substituted with the happiest results. The analogy here, too, is very striking, as every one must have observed the same thing in the treatment of the venereal disease.

In Egypt we found the lepra to assume the same features, and to be treated in the same way by the European practitioners, as it was in Greece. Syphilis, in all its forms, is also very prevalent in both these countries, but is a much more mild disease, and yields more readily to remedies, than in Europe or America.

The dry and arid climate of Egypt, while it seems to render these diseases more mild, and particularly syphilis, produces in the Arabs a variety of obstinate cutaneous affections. We saw many cases of the different forms of porrigo, but it readily yielded to cleanliness and the application of an ointment composed of equal parts of lard or common cerate, tar and powdered charcoal. Want of cleanliness alone, cannot be said to cause this affection, as the Arabs generally are worshippers of the Prophet, and have their heads shaved, and observe the ordinances of their religion, with much more exactness, punctuality and fidelity than the Christians. Before they turn their faces towards Mecca, and offer their prayers, which are most imposing and solemn, they invariably wash their faces, hands and feet; and this they do, three and five times in twenty-four hours. The other parts of their bodies receive very little attention, and consequently, are in a more filthy condition.

The Egyptians are a very temperate people from necessity; there is no wine or ardent spirits peculiar to the country. To this, more than to climate alone, we would ascribe the greater readiness with which their diseases yield to treatment. From the state of nature in which they live, there is very little predisposition to inflammation; and hence the readiness with which they recover from wounds, and the remarkable success of surgical operations.

The salutary and desirable process of union by the first intention, or adhesion, is much more common and complete than in any part of Europe, or even in America. This has been ascribed by some, to the heat and dryness of the climate alone; but we would give a part of the credit to the sound and natural constitutions of the Arabs. In the more civilised and refined countries of Europe and America, there is frequently either too much inflammation, or too high a degree of irritability, to have this object accomplished. Both these states of the system, are well known by every surgeon, to interfere with, and indeed, frequently to frustrate this process entirely.

Even the wound made in the operation of lithotomy, which is performed in the lateral way, except that the prostate and neck of the bladder are cut directly downwards towards the rectum as recommended and practised by Vacca, frequently heals by the first intention, as I was informed by Dr. Pruner, a very intelligent and distinguished German surgeon, at Cairo, who ranks high in the confidence of Mahomet Ali.

My experience in New York warrants me in saying, that the adhesive inflammation is, *cæteris paribus*, more favourable for union by the first intention, during our hot seasons, than in the cold weather of winter. This I have noticed in an abundance of instances, and have been in the habit of ascribing it to the lesser degree of inflammation that follows operations and injuries in the summer months.

Aneurisms are almost unknown in Egypt. Dr. P. informed me, that, during a number of years of extensive private practice and hospital practice he had had only one case requiring an operation. It was a ligature upon the brachial artery. I presented him with a set of the *American instruments*, for conveying the ligature beneath the artery, and showed him the manner of using them; with which beautiful, simple and ingenious inventions, he assured me he would make an application of the ligature in the first case which came under his care.

Since visiting a number of oriental cities, it is no longer surprising to me that they should, from time to time, be scourged with typhoid forms of dis-

ease, and particularly, the appalling and terrific forms of it, denominated the peste or plague. As long as their cities remain, and their habits continue, it must be, from time to time, the companion of the Mussulman. The features and appearance of this disease, like the Asiatic cholera, are frightful indeed, from the overwhelming operations of the contagion, infection or poison that produces it upon the nervous system. It certainly resembles the effect which some of the more deadly vegetable and animal poisons produce upon animal life. From the mild vegetable miasm that produces intermittent and remittent fevers, there is a variety of causes, vegetable and animal, differing in intensity and violence, until we arrive at the most concentrated of all, which is the *materies morbi* of plague itself.

From the facts which I collected at Cairo, Alexandria, Smyrna and Constantinople, in each of which places the disease existed, and in the first of which I saw a number of cases, my belief is, that it is not contagious, but infectious and atmospheric. Dr. Bulard, the distinguished and intrepid French physician, whom I met in the East, and with whom I returned to Europe, has been several years immersed in the plague, visiting those cities in which it prevailed, for the purpose of investigating its nature, and the causes that produce and influence it. As we performed our quarantine together at Orsova, I had an opportunity of collecting many curious facts in relation to the disease, and at the same time becoming acquainted with many of his views and opinions.

He does not believe the disease communicable from one person to another in the pure air of the country; they must be, as he says, in a pestiferous atmosphere. In three instances, in which the clothes from the dead body were worn by three individuals, two took the disease, but the experiment was made in an impure atmosphere. He thinks it would not be communicated in this way, in a pure air. It cannot be transmitted by inoculation with the blood from patients labouring under the disease. He informed me that he had made more than one hundred trials with the blood, at different stages of the complaint. He even doubted that inoculation with the matter from a charbon or inguinal bubo, would produce the disease out of a pestiferous focus.

Doctor Pruner of Cairo informed me, that he never knew an instance of plague to follow an autopsy, among the pupils of the hospital, and that they made post mortem examinations of plague subjects, as freely as those who die from other diseases. Dr. ——— of Alexandria, stated to us, that he sent the clothes and mattrass, of a person who had died of plague, to London, and that a quantity of the discharge from the charbons and buboes, was mingled with them, and cotton was imbued with it purposely. It arrived safe, was taken home, but no disease communicated by it. His confidence in the non-contagiousness of plague was so great, that he was induced to make this bold and unjustifiable experiment.

In the astonishing number of autopsies, which Dr. Bulard made in Egypt, Asia Minor and Constantinople, amounting to upwards of six hundred, he found the morbid appearances very varied. The brain, the stomach, intestines, liver and spleen, were the organs generally either congested or inflamed. One of these organs was sure to be found in the above mentioned state, if the patient survived the initiatory stage, or collapse of the whole system which ushered in the disease. Many perish in this stage. Those who survive it, require a very guarded and cautious depletory treat-

ment, from a fear of the secondary collapse, which too frequently also is fatal.

As far as I could ascertain, there is no settled method of treatment among the practitioners of the East. All are very cautious in depletory means, and particularly venesection, yet leeching and cupping may be and are resorted to. Another will say, that quinine in large quantities, from the commence- of the attack, is the only chance the patient has, in from five to ten grain doses, several times a day, and continued through the stage of excitement.

From the great discrepancy which I found to exist in the treatment of the peste, and from what I saw for myself, it should, in my opinion, be treated upon the same principles as an aggravated form of malignant typhus. Always bearing in mind the necessity of watching very closely for the unexpected collapses, which suddenly and fatally steal upon us.

REVIEWS.

ARTICLE XI. *Outlines of the Institutes of Medicine: founded on the Philosophy of the Human Economy, in Health, and in Disease.* In Three Parts. Should we build facts upon facts until our pile reached the heavens, they would tumble to pieces unless they were cemented by principles.—*Rush.* By JOSEPH A. GALLUP, M. D., 2 vols. Boston: Otis, Broaders, & Company, 1839. pp. 416 and 460, 8vo.

DR. GALLUP has been long known as an author, and in the north-eastern section of our country, as a medical teacher. In 1815, he published a volume of more than four hundred pages, entitled, "*Sketches of Epidemic Diseases in the state of Vermont.*" For many years he has been a lecturer on different branches of medical science in more than one of the Vermont schools; and as "more than seven septenaries of his life," as he tells us, have been spent in the active practice and the diligent study of his art, his name is far from being an unknown or a new one in the annals of American medical literature. He now presents himself to the public with two additional volumes, bearing the old, but to us somewhat indefinite, title of the *Institutes of Medicine*, embracing, we have a right to presume, the final conclusions, the deliberate and digested results of a long and busy life. As medical journalists, we cannot, of course, pass by an original work of such pretensions; and even if our inclinations might prompt us in the present instance to be silent, there is resting upon us a high duty to the profession, which we do not feel ourselves at liberty to disregard. This duty it is our intention now to discharge, fully, faithfull, honestly, in strict justice to Dr. Gallup, and in like strict justice to the profession, so far as upright purposes and such ability as has been vouchsafed us shall enable us to do it. Dr. Gallup's work claims, indirectly at least, to be a natural *system of medicine;* in it he says, the fundamental principles of the science are at stake, and he makes his appeal, boldly and frankly, to the "honest sentiment of the community of medicine," for approval or disapproval of his labour. This is fair, and as one member of that community, we shall take him at his word. As he himself says, "whilst we respect characters, we must be free with principles," and in the animadversions which we shall feel called upon to make on many of the doctrines of his book, we shall aim to be guided by a single eye to truth, to impartial judgment, and to the interests of our science. We have no other purposes to answer, than the attainment of these ends.

The *Outlines of the Institutes of Medicine* are arranged in three great divisions—to wit: those of physiology, pathology, and therapeutics. The subject of physiology occupies 226 pages, that of pathology is extended over 264 pages, and 273 pages are devoted to the division of

therapeutics. Nearly one hundred pages of vol. 2d are appropriated to a new system of nosography.

We have but little to say, generally, of our author's physiology, except that we are wholly unable to discover the right of this department to a prominent place, or indeed to any separate place in the *Institutes of Medicine*, as they are called. These, says Dr. Gallup, may be defined as "that science, which embraces a knowledge of diseases and their remedies." This definition makes the *Institutes of Medicine* synonymous with *practical medicine*, and with the *theory and practice of medicine*. If these several terms are not absolute synonyma, then we suppose, that by the former, as contra-distinguished from the latter, must be meant the general principles of pathology and therapeutics, in the abstract, or the philosophy of pathology and therapeutics, and not the knowledge of individual diseases and their treatment. If this is the true supposition, our own opinion of the legitimacy of such a distinction and of the grounds upon which it rests will become apparent in the course of our remarks. In either case, we still fail to see the alleged relationship. Certainly a knowledge of physiology is necessary to a full knowledge of diseases and of their remedies, but no more so than is a knowledge of anatomy or of materia medica. They are all co-ordinate and independent branches of the same science, mutually and intimately related each to each, and each to all, but not subordinated in regular gradation one to another. Dr. Gallup's 226 pages are made up, for the most part, of the simplest elementary facts of physiology, strictly so called, and of physiological or general anatomy, with but little merit either of arrangement or exposition. Such inaccuracies as calling *fibrine*, effused from inflamed serous surfaces, a *dense serosity*, of stating the results of the experimental physiologists in relation to the functions of the different parts of the brain as positive and absolute, we have no wish to single out for special remark. We cannot, however, dismiss this division of the *outlines* without taking a fuller notice of one of its doctrines: indeed, should we do so, our author himself might justly complain of us, since the doctrine to which we allude is evidently one of his very particular favourites. It has reference to nothing less important than the independent and absolute nature, origin and operation of the principle of life; that peculiar and mysterious power, always, heretofore supposed to be associated during this state of existence with organic matter, which has received so many names, and which has been the subject of so much vague speculation and conjecture. Before plunging into the vast inane of the question, "*What is life?*" the Dr. seems to have had some slight misgivings—not as to the ability of the air, into which from his philosophical heights he was about to launch—to uphold his waxen wings, but as to the opinion of his fellow mortals, standing on the solid ground below, of the safety and sanity of the enterprise on which he was about to enter. "It appears," he says, "that philosophers are required to have every thesis guarded, and supported by demonstrations drawn from tangible experiments, and so conclusive as to compel assent; that nothing can be taken on trust, or by analogical induction. These lines have of late been drawn so straight as to impede investigation on subjects, which in their nature cannot admit of mathematical or chemical demonstration. However, it may be noticed, that undeniable facts may be well shown by a series of circumstantial and analogical indications, which may compel the assent of the mind as certainly as direct

testimony, and so it is now held and practised in courts of judicature." But Dr. Gallup is not a man to have his investigations impeded by these straight lines of this modern logic; his is not a genius to be cramped in a pestle and mortar, and the fruits of this high soaring are the doctrines which we proceed to state.

The vital principle, or as Dr. Gallup calls it, the *vital entity*, is not an "*evanescent nihility*," the result of organization, or its inseparable dependent, but an exquisitely subtle essence, gas, aura, or spirit, existing by itself, co-eval and co-extensive with the existence of matter, and constituting, when attached to matter, manifest, organic life. This principle pervades universal nature, and is ever ready and on the look out for an opportunity to attach itself to "certain molecular forms of matter," by which union it is enabled to enjoy and to manifest its peculiar properties and phenomena, or in other words *to live*. "The myriads of myriads of ephemeral insects that darken the air, or of reptiles which separate the foot of man from the surface of the earth, all springing into life at the same time, and simultaneously giving up the ghost and becoming extinct," cannot be accounted for, we are told, on the supposition of a seminal or a sexual origin. They are the result of the coalescence of this vital aura with the molecular forms of matter, the products, in short, of what has been called spontaneous generation. As illustrations of the action of this principle we are referred to the proofs furnished by the fossil osteology of some of the early geological formations, of the former existence of animated tribes which have long been extinct, and of the subsequent creation of others, "so far as can be discovered," says Dr. Gallup, "without a direct seminal origin." We are further referred to Genesis for evidence of the reality of this "universal generant influence." The doctrine is gravely argued from the phraseology of the Mosaic account of the creation, and thus this sublime and mysterious act of Jehovah himself is seriously attributed to the agency of a fecundating principle, or germinating aura. We have no intention of so far presuming upon the patience and good nature of our readers as to reply to these worse than ridiculous fancies. It is quite enough for us to state them. They have but one parallel, that we know of among modern works of science, and this is to be found in Mr. Kirby's Bridgwater treatise, a book, the preliminary chapters of which are more crowded with concentrated folly and sublimated nonsense, than any thing else of the present century, that has come under our observation. Our author could hardly have been aware of the existence of Mr. Kirby's speculations. He could not have been so unkind as to have passed them by without any tokens of recognition. Mr. Kirby is of opinion, that all parasitic animals infesting the human body—in vulgar phrase, lice—have been created at different times, since the fall, in order to punish and torment men for their sins. Le Clerc and Bonnet, it seems, thought it more probable, that all these worms existed in Adam before the transgression, under the form of eggs, which did not hatch till after that event. How many difficulties, which must have perplexed the mind of the learned British naturalist, philosopher and divine, would have been removed, had he only been aware of the existence and the properties of the "universal generant influence, or germinating aura?" There is one other attribute of this vital entity, which we have not yet spoken of, and which, trusting only to our *à priori* reasoning, we should hardly have looked for. It seems to be a fountain sending forth bitter as well as sweet waters, a vine

bringing forth thistles as well as grapes, a tree of death as well as of life. Dr. Gallup suggests, that epidemic constitutions of the atmosphere may consist simply in an undue and extraordinary concentration and accumulation of this subtilized aura, and as a sort of support to this suggestion, we are told, that attacks of severe disease are often preceded by a state of high and refined health in the individual, and that the prevalence of the plague is attended with increased activity of the sexual appetite!

We are sorry to be under the necessity of convicting Dr. Gallup of plagiarism in this last matter. We would not willingly pluck so green a leaf as this, from his philosophic garland; but the heart-hardening obligations of justice and criticism, leave us no alternative, and we must proceed in our painful duty. It is well known that, during the last seven or eight years of the eighteenth century, the yellow fever prevailed very extensively and fatally in most of the large cities along our Atlantic coast, and that a great deal was written in relation to its causes. Among other works upon this subject, was one published in New York, in 1798, entitled a "*Physical Inquiry into the Origin and Causes of the Pestilential Fever.*" The author thinks that the ancient doctrine of the four elements is right, as far as it goes, but that two others ought to be added. One of these is electrical fire, and the other is a *universal agent*, which he calls *mother*. This *mother*, he says, *is the great agent of vegetable and animal life.* He says that it differs essentially from air; that its native region is the surface of the earth; and that it does not descend deep into the earth, but by compulsion, although at times it is forced very far downwards; but that, even if it should be drawn to the centre of gravity, or to the bottom of the ocean, it will eventually make its escape, and rise to its natural station upon the surface again. This *mother*, he adds, commonly rises pure, but it sometimes gets contaminated by combining with other things, especially during the putrefactive process, while the hot season prevails. The *mother*, thus vitiated and venomous, rises up, defiling the earth and water through which it passes, and by its action on the human system, occasions pestilential fevers. The identity of doctrine here is manifest, and our author's claims to the distinction of discovery must be wholly abandoned, unless the result of another Leibnitzo-Newtonian controversy should show that the glory really belonged to both, both having arrived at the same great result independent of each other.

Leaving the physiological portion of the book, we at length arrive at more inviting regions; and we are ushered into the province of pathology with a flourish of trumpets of no equivocal or uncertain sound.

"In the outset," says Dr. G. "we indignantly repel the trite, sarcastic inuendoes, which have so often uncourteously been cast by many; by direct allusions to theorems advanced, having been formed from lamp-light cogitations in the closet; and the bending of facts and analogies to support a favourite hypothesis. We have been inducted by another, and more hardy routine of study. And, from the full conviction of the insufficiency of every generalization hitherto attempted, have re-explored the chartless empire of medicine; and wishing to save it from the quicksands of empiricism, have made many comparisons in the open air, in the dissecting room, and at 'the bed-side of the sick.' Having a few incontrovertible data, as polar stars in view, we have *endeavoured* to form inductions, which will not readily be dissipated by the fire of experiment. If the arrangement is new, it is supported by facts not altogether novel.

That this is no fanfaronade, is immediately manifest on turning the leaf

which contains it, for directly on its opposite and corresponding surface, we have the annunciation in three pregnant lines, of the great fundamental principle of pathology, so long sought, and so late discovered—a principle which is to be to the physician what the Newtonian law of gravitation is to the astronomer. The two pages stand in beautiful relation to each other; the latter fulfilling all the high promise of the former—"fit body to fit head." The following is our author's statement of the new doctrine, which is to lead the bewildered pathologist from out of the intricate and labyrinthian paths in which he has so long and so blindly wandered—baffled and sore perplexed—up into the light and sunshine of the perfect day.

"The excellency of Sir I. Newton's improvements in physics, does not consist in having discovered the principle of attraction inherent in inert matter, but in having shown that attraction *acts directly in proportion to the mass of matter, and inversely as the distances.* Is it not possible to offer a clew, which may lead to an unfolding of the laws of organic life upon an axiom almost equally simple in character and construction, and which may serve as a guide to the pathologist, through the intricacies of his searches in relation to disease? *The vital force responds directly in proportion to the integrity of the organization, and is equivalent to the compatible or incompatible range of stimulations applied.*"

We hope that no pathologist will hereafter suffer himself to be troubled with foolish and unreasonable doubts in relation to any of the questions which he is called upon to answer. The *open sesame* is here put into his hands, and it is his own fault if he does not unlock, with its magic power, the doors which have hitherto barred him out from that region into which he may now enter, to clear up the mysteries of disease, and to unfold the laws of organic life. The great elementary pathological axiom is at length established; the formula, by the application of which, all the manifold, confused and ever shifting phenomena of disease shall arrange themselves in harmonious order, and refer themselves with quick and infallible certainty to their simple and ultimate causes is finally discovered, and it is this: "*The vital force responds directly in proportion to the integrity of the organization, and is equivalent to the compatible or incompatible range of stimulations applied.*"

Like a faithful pastor, who avails himself of any striking or unusual visitation of Providence, to impress upon the hearts of his people, the truths and obligations of his faith, we take this occasion to enforce upon our readers, the immense practical value of great pathological principles like that just stated. It must be borne in mind, that Dr. Gallup's work is "founded on the philosophy of the human economy, in health and in disease." He rests his rules of practice on his doctrines of morbid action. His therapeutics is deduced from his pathology. He is a rationalist and no empiric. Now who can fail to see how naturally the only true method of treating—not diseases, but disease and all disease, flows from the above pathological axiom! Who can doubt after this is once clearly and fully comprehended, whether Dr. Gallup's treatment of typhoid fever, or Dr. Miner's, is right? Who can hesitate any longer between quinine and blood-letting in erysipelas? Of what use are all these statistics, and this irksome, drudging, endless study of positive results, this counting and weighing of cases, when the whole matter can be thus packed into a nut-shell? How much easier it is to be governed by these rational principles, than it is to attempt to follow the uncertain and contradictory guidances of

experience! Henceforth, then, if a physician who may be visited with such misgivings as have heretofore at times beset even the best of us, should have any doubts as to the safest management of his patient with rheumatism, or typhus, or phthisis, let him turn away from the fallacies of observation, to that oracle of medical science which has been the text of this commentary, and he shall doubt no longer; his knowledge shall be clear, absolute and complete.

The pathological division of the work is arranged under three separate heads. These are *pathology* strictly so called, *etiology* and *semeiotice*. The first subdivision contains eleven sections, some few of which, in the prosecution of our design, we now proceed to notice. The second section of this subdivision, and the fourteenth of the book, has for its title "*What is Disease?*" a question that has answered the excellent and profitable purpose of tasking and baffling the ingenuity of medical systematists, from the time of father Galen, or earlier, down to that of Dr. Gallup. To whom, among the countless multitudes who have tried their wits at the verbal defining of a subject, which, for all practical ends every body understands, belongs the palm of victory and success, we shall not undertake to determine. That our author is at least as happy in the framing of a definition as he is in the conception and statement of a principle is abundantly shown in the present instance. The following are his words:—"*With respect to a short definition of disease generally, or the morbid habit, we might say that it consists in a manifestation of a series of phenomena, indicative of the repulsive powers of the instinctive energies of the living system.*" This is certainly very clear.

The four sections, from the sixteenth to the nineteenth, inclusive, we shall pass over. One of the leading objects of the pages occupied by these sections, is to establish the doctrine of the *nosodynamic* character, as Dr. Gallup calls it, of disease. He regards all disease as essentially sthenic in its nature.

The twentieth section has this question for its caption:—"*Is disease produced by extensive constitutional changes, and thence forming local concentrations; or does it originate at some tissual point, and from thence radiate over the entire organization?*" The doctrines which it is the purpose of this section to establish, may be thus briefly stated. All disease is primarily general. Local affections are a result, and not the original cause of the general excitement. The former depend upon the latter: the latter does not depend upon the former. The local lesion, in all cases, acute and chronic, is only a concentration of the general nosodynamic force, as Dr. Gallup calls the constitutional disturbance. This nosodynamic force cannot act for any considerable time, without being accumulated upon some focal point, and after it has thus fallen upon some organ, or tissue, then there is a reflex or reverberating action of greater or less intensity, according to circumstances. The radiations of local injuries or irritations over the system, are transient in duration, and trifling in effect, unless a morbid habit exists at the time, or directly supervenes; and in this event, they become the foci of the general diseased state. The capital leading points of Dr. Gallup's system of pathology, are then these two;—the sthenic character of all disease, and the secondariness or dependence upon a general morbid habit of all local affections.

We have no wish to visit these doctrines with undiscriminating censure. The chief objection to them consists in their claims to absolute and univer-

sal application. Dr. G. has here fallen into the common error of those who endeavour to establish any other principles or axioms in medical science, than such as are the natural, necessary, inevitable expression of facts, correctly estimated and analyzed;—that of premature and gratuitous generalization. As a positive generalization or law, as a universal fact, the foregoing doctrines are false; at any rate their truth is not demonstrated. But that as pathological views they are true to a certain extent, in relation to many morbid conditions, there is good reason for believing. That they are true to a much greater extent than is now generally admitted, we certainly shall not deny. We do not think that this is a case where positive and dogmatical assertion, either one way or the other, is allowed by the spirit of a true philosophy. But we are ready to admit, that the same philosophy may justify us in the cautious formation of mere opinions. And we think that the doctrine of the constant and essential locality of disease is by far too generally adopted. This is one of the fruits of the Broussaisean system. As a natural result, the condition of the general habit in disease has been, we think too much disregarded. In our exclusive thoughts of the local and more easily appreciable lesion, we have forgotten the constitution itself. In our search for the tubercular deposite, and in our study of its phenomena, we have too much overlooked the depraved condition of which the former may have been only the consequence. It is in this respect, especially, that the English practice seems to us superior to the French. In this country the doctrines of Abernethy have been too much superseded by those of Broussais. Dr. Gallup's views in relation to phthisis appear to us in this respect very just. He considers the general state of the system, or the morbid habit as the primary and seminal element in that complex pathological condition constituting the disease.

Lest some of the above admissions should seem to any of our readers to be inconsistent with the strong and earnest language that we have heretofore made use of in deprecating all departure from the study of any thing but the actual phenomena of disease, we will add that we go no further than a rigorous and philosophical interpretation of all the phenomena will safely bear us. And even here, we state the case only as a reasonable interpretation of a series of facts, not as a fact itself—a probably correct induction, not a necessary and demonstrated result. To this kind of reasoning we have no objection. In many instances we can hardly avoid indulging in it. *How is this?* and *why is this?* are questions that will intrude themselves at times into our presence, and wait there to be answered. For instance, in phthisis, to which allusion has just been made, the first, essential, legitimate objects of investigation are its phenomena, its natural history—its hygiene and its therapeutics. Its causes, its signs, the state of the organs, its prevention, its cure—these are the leading subjects of our research, and they are to be ascertained, not from the physiology of the body, not from any real or assumed knowledge of the intimate properties and processes of the ultimate organization, but from the simple, vigilant, long-continued study of actual appearances. Then there are certain results that are inevitable, that flow, naturally, spontaneously, from the data so obtained, and about which there will be no more controversy or difference of opinion, than there is about the ascertained properties of inert matter. Such are the influence of climate, season, locality, age, sex, occupation; the symptoms, the lesions, the mortality, the effects of medicine and regimen, and so on. All this constitutes the natural his-

tory of the disease, and for the most part, and in relation to most diseases, our self complacent boasting to the contrary notwithstanding, it is yet very incomplete. After this is ascertained and settled, or during the process of its investigation, we may, if we choose, still in the spirit of a sound philosophy, admit other inquiries, such as these;—*what is the nature of this morbid habit? what is the nature of this local lesion? what are their mutual relations? which is cause, and which is effect?* But let it be ever remembered, that these matters are always to be kept in subordination to the first. They are to be deduced as more or less probable, only, from the first and the only positive results. They are explanations of facts, not facts. They are interpretations of appearances or phenomena, not themselves appearances or phenomena. They are legitimate *hypotheses*, but they are not *laws*.

Above all things, let us understand that the practical rules which are to guide our conduct in hygiene, diagnosis, prognosis and therapeutics are to be drawn exclusively from the former class of facts, never from the latter interpretations and philosophizings. In the treatment of phthisis, we are to be governed by the lessons of experience and not by our opinion of the sthenic or asthenic, the local or constitutional character of the disease. In the trial of new or modified processes of hygiene and therapeutics, we may be influenced by these interpretations and opinions, if they have been carefully and rigorously deduced, but they can do no more than to furnish us with hints and suggestions. They give us no positive knowledge. Broussais and Gallup regard phthisis as an inflammatory affection. One of them looks upon it as a local, the other as essentially a general disease. Louis does not believe it to be inflammatory in its nature; at least he denies that there is any satisfactory evidence that it is so. Dr. Rush, Tully, Miner, and others call it a disease of debility, and if the popular doctrine, that our therapeutics must be *rational*, as the phrase goes, that is, that it must be deduced from our pathology, be correct, and if each of these disciples of so many different schools, if each of these contradictory translators and interpreters of the same language, is consistent in his conduct, he must treat the disease according to his own views of its nature, and in no way else. Broussais must leech and blister the chest, Gallup must bleed from the arm, while Rush, Tully and Miner must give bark, wine and iron. Dr. Gallup indeed, while speaking of the importance of forming correct opinions about the constitutional character of disease, expressly declares, in the work before us, that "those who are vascillating in opinion will always be the agents of mutable and inefficient treatment; *whilst those who embrace wrong theorems will use improper remedies.*" But after all, exactly how far Dr. Gallup's treatment is really based upon his theorems it is somewhat difficult to say; and the same thing is true of the whole class to which he belongs. Dr Miner, who may be considered, in connexion with Dr. Tully, the leader of a medical sect directly opposed to that of Dr. Gallup, in almost every point of doctrine, and of practice, is evidently enough, more or less governed in his therapeutics by his notions of the nature of disease. A comparison of the opinions and practice of these rival teachers would constitute a curious chapter in our medical history, and furnish, also, abundant and most apposite illustrations of the subjects which we are now considering. Both, for instance, boldly assert the curability, in their hands, of phthisis. Dr. Gallup says the disease is inflammatory, sthenic, *nosodynamic*, and that it can be removed only by general bloodletting, emetics, external warmth, and so on, with this essen-

tial condition, that all narcotics, and opium, especially, are withheld. Dr. Miner says that calomel, opium and sanguinaria, with a suitable course of mineral tonics are almost specific in its cure. In the hands of Dr. Gallup, all our diseases are sthenic and are to be cured only by active, antiphlogistic treatment. In the hands of his rival, they are all asthenic, and tonics, stimulants and narcotics, with a scrupulous avoidance of the lancet, and of all debilitants and refrigerants constitute the only true or safe method of management. Dr. Gallup's heroics are bloodletting, emetics and warmth. Dr. Miner's are calomel, opium, alcohol, capsicum, ammonia, arsenic, phosphorus and blood root. Calomel and opium, says Dr. Miner, in acute febrile diseases, are of greater service than all the other articles of the Materia Medica. Both these articles, says Dr. Gallup, have been the occasion of more injury than benefit. Bleeding and antimony are in the hands of Dr. Gallup universal and all-powerful means of salvation to his patients. "The lancet," says his rival, is a minute instrument of mighty mischief, a weapon which annually slays more than the sword. "Antimony alone," he continues "does more injury than all the efficient exciting and supporting agents of the Materia Medica. The king of Great Britain, without doubt, loses every year more subjects by these means, than the battle and campaign of Waterloo cost him, with all their glories." Both Dr. G. and Dr. M. appeal it is true, to the results of their treatment in proof of its efficacy, and we are ready to admit what we really believe, that the true grounds of their confidence in their respective modes of management are to be found, more than they themselves are aware of, in their own experience. But, nevertheless, we can have no hesitation in saying that their strong blind faith in exclusive and hypothetical systems of medical philosophy has infused unsoundness and uncertainty into the only true sources of all therapeutics. Even the great and sagacious Sydenham, although he reversed the order of this vicious mode of reasoning, and deduced his theory of disease from the observed effects of his methods of management, was evidently influenced in his practice by his pathological speculations. His notions of morbid action, after having been derived, in part at least, from the apparent effects of remedies, reacted upon his therapeutics; they dimmed the clearness of his perceptions, they warped his judgment, and they acted unfavourably upon his practice.

Is it not clear, that in all these cases, that in all like cases, the whole process of procedure is wrong? That such is our conviction needs now hardly to be said. We have expressed this conviction at length, here, because Dr. Gallup's book presents one of the most striking examples, which the last hundred years have given us, of the philosophy and views which we have been endeavouring to controvert. We have expressed our convictions earnestly because we think them not only true and sound in themselves, but of great practical importance. If the Sydenhams, the Gallups, the Tullys, the Miners, if the oracles and teachers in our temple are not safe from the bad effects of their own false philosophies, how can it be expected, that the great body of us, who are wont to look to them and to their compeers for light, instruction and guidance, shall escape from the same malign and disastrous influences?

We resume our analysis, and leaving the remaining three sections of the subdivision of pathology, we come to that of etiology, to which one hundred pages are devoted. This subdivision, taken as a whole, is written, we think, with more straight forward sense and ability, than the preceding portions of the volume, although it is far enough from being exempt from

the kind of faults of which we have already spoken so freely. Many of our author's views of the causes of disease are such as are generally received. Others are somewhat peculiar to himself. In his twentieth section, of more than twenty pages, he attempts to disprove the existence of any thing like local miasmata or atmospheric contaminations, as causes of disease. We have failed, however, to discover sufficient ground, either in the author's facts or arguments, for his denial of the existence of a deleterious principle, acting within circumscribed limits, much as the more general cause or principle, to which the term epidemic is applied, acts over more extensive and wide spread regions. We do not see, that any very well defined or cardinal difference has yet been shown to exist between these two causes, the local miasmatic, and the more general epidemic. Dr. G. thinks that many of the effects, which have been commonly attributed to the decomposition of animal and vegetable matter, and to malaria, depend solely upon sensible, meteorological influences. This is a fair subject of discussion, but one in which it is not our intention now to engage. Dr. G. admits the existence of a general, epidemic constitution of the air, or as he calls it, a general atmospheric pestilent afflatus, and the intimation is here again thrown out, that this invisible and mysterious agent of disease and death, this inscrutable and terrific UNKNOWN is only an excess of that all pervading aura or entity of which we have before heard. Our author has modified his views on this subject since the publication of his work on epidemic diseases in 1815. He then referred this pestilent afflatus to some electro-planetary operations, the nature of which is a good deal less intelligible to ourselves, than he would then have had us suppose it was to him. The electrical fluid, he then thought, "was the *vinculum*, or connecting medium of the fragments of universal nature, by whose pre-eminent powers of attraction and repulsion, the planets were kept in their orbits, and performed their revolutions, and by which even the comets were recalled from their distant wanderings, to revisit the sun, and to become visible to the inhabitants of our earth." This strange fluid, thus unceremoniously, with the doctor's aid, usurping the sceptre and dominion of gravitation, by the help and co-operation of "changes depending on the conjunction and opposition of the planets," kindled up, according to him, the pestilent afflatus. Such was the doctrine of 1815:—Alas! that these systems of indigenous philosophy should be so unstable and evanescent! The chain with which our Dr. Webster essayed to bind together plagues, and pestilences, and earthquakes and comets and volcanoes, proved to be of no adamantine materials. Long ago, it snapped asunder, and all the multiform and appalling horrors, all the gorgons and hydras and chimeras dire, which he had attempted to fasten to it, in most unnatural and monstrous association, flew off again, each to its own region, to render allegiance to its own sovereign and independent laws. And then the learned and many titled Dr. Mitchell's doctrine of SEPTON, built up, as he fondly imagined, on the solid basis of ancient lore and modern science, graced with the metaphorical drapery; and embalmed in the artificial amber of Darwinian verse; that also is gone, and now we find this electro-astrologic theory of Dr. Gallup's, abandoned and left to its early fate, even by its own author. *Sic transit, etc.*

Semeiotice, the last subdivision of the pathological portion of the work occupies the first seventy pages of the second volume. When we say that it treats of the phenomena *of disease*, and not of separate diseases, of the morbid habit and not of any individual affection, we have said enough to show how entirely destitute it must be of any practical value. It is not

exactly correct, even, to say that it treats of the *phenomena* of disease. It treats rather of the supposed philosophy or *rationale* of these phenomena, and so far, is less useful, than it would have been, had it been confined to a strict exposition of some of the generalities of morbid manifestations. Instead of making any analysis or commentaries, we will copy the titles of the sub-sections of the first section, in the order in which they stand, and also a page or two of the text. The titles are as follows; *Preliminary remarks:—Harmonies existing in disease:—Anomalies of the phenomena:—Contingent phenomena:—Three series of phenomena:—Reflections on the first series—predisposition:—Shrivelled aspect, paleness and faintness:—Chills and rigors:—Paroxysms, and their periodical return:—Cold sweats:—Diarrhœa serosa:—Diabetes simplex:—Inordinate flow of bile:—Cardiac and arterial action:—Primary coma.*

Under the last title, Dr. G. says, "Primary coma arises from any cause that suddenly occasions an exhaustion of vital force, by stimulation; or from accumulations of blood in the venous radicles producing congestions in the cerebrum, in which event the nervous force of the intellectual organs is partially intercepted for a time. The same circumstances occurring in the cerebellum occasion lassitude and paralysis; yet, if they should be of an irritating kind, convulsions might attend. Even congestions in the cerebral tissues may induce the same results, when they are sufficient to produce a perpendicular pressure on the cerebellum."

In the following extract we have Dr. G's views of the causes and nature of the difference between the synochoid and the typhoid diathesis. We hope, that in justice to themselves and to the author, our readers will study this extract as faithfully as we ourselves have done, that they will comprehend it as clearly, and that they will gather from it those rich lessons of practical wisdom, which will enable them readily to distinguish between a sthenic and an asthenic habit, and so to adapt with more accuracy and certainty their course of treatment to the case before them.

"In prosecuting the inquiry," he says, "we shall need to be reminded of certain pathological theses, which are well established, and we shall, therefore, not stop to prove them. One is, that every inordinate impression on the tissues, if even through the mind, which is capable of altering the functions, is directly followed by a retrocession of fluids from the surface to the central organs and tissues. It is attended with anæmia externally, and hyperæmia internally. This will hold good from syncope up to apoplexy. Although the period may sometimes be very short, between the impression and the return of circulation in quick responding habits, yet the change has existed in some degree.

"The principal physiological force existing, which must give energy to the vascular tissues enabling them to restore the equilibrity to the surface, must be the visceral ganglia and their nerves, since they accompany the arteries into their dermoid capillaries.

"Let us now recall what has been amply proved, that early in every severe disease the internal capillary vessels are fully distended, and engorged, whilst anæmia exists on the surface. And, also, the physiological fact of the ganglia, and their plexuses being vascular; together with the pathological fact of these ganglia being found engorged in the numerous examinations of fatal typhoid cases, and the proposition appears to be established, that the derangements have produced an inability in the capillary circulations, and this is the immediate cause of the typhoid state. A similar derangement in the encephalon produces coma, paralysis, and perhaps apoplexy, attended with a failure of functions.

We have now found certain derangements in the circulations, sufficient to

account for the phenomena presented, and the circumstances which produce these derangements have heretofore been amply discussed.

"We will, however, concede, that what has been advanced may be common, in greater or less degree, to both the diatheses; and the inquiry must still be extended, viz. What makes the difference?

"We assume it as a fact, that those cases which afford the clearest manifestations of a typhoid diathesis early show the most of an anæmic state of the surface; and the inference must be, that these cases have the greatest burden of internal hyperæmia also; and this is in conformity to autoptical inspections.

"We improve, also, another fact, that the causes are more impressive under some circumstances, than others; and, also, that they make greater impressions on some less resisting subjects, than on others.

"What has been advanced may not only be considered as facts, but as universally so. With this assurance, we will introduce another entitled to equal credit; which is, the lively susceptibility of some temperaments enables the tissues to respond more readily, and energetically, than others to every injury offered them; and in disease severe stimulations have been presented. These early responding actions restore circulation in some degree, both arterial and venous, if not perfectly; and in sufficient season to save the paresis of the ganglia, which must take place, if the enthralments at the attack are continued. The circulation will now be more free and intense, in proportion to the severity of the impressions, and vascular force of individual idiosyncracy, if all other things are equal.

"It is supposed this state of things may take place spontaneously, and without the assistance of art, which is often the fact and most generally so. The pathological processes now go on exhibiting that train of phenomena, which indicates the condition called the *synochoid diathesis;* viz. heat, pain, redness, thirst, hard, and often throbbing pulse, capillary circulation free, wakefulness, with liability to delirium, fixed location with pain in some organ or tissue, blood on venesection quite florid, having a fibrinous crust, and cupped.

"In analyzing the other limb of our subject, we merely need to make the relative inferences from the principles advanced. The blood is not early restored to the surface, either by nature or art, it is not aerated in the lungs, nor is venous absorption excited sufficiently. The ganglial nervous force, including the internal respiratory, is so far paralysed, and the tissues held in such rigid durance, that the recuperative powers of the economy cannot be excited to afford seasonable aid: for, the primitive or first grade of vital energy of tissues holds the nervous force in restraint by its acquired, or nosodynamic influence. It may be held until all functional action ceases; but this is supposing an extreme case. It most commonly falls out, that the responding impulses are drawn forth, but in an imperfect manner, and this gives occasion to the typhoid state.

"The circulations, with all their relative associations, are but imperfectly performed, when compared with the expanded state of the synochoid diathesis, with arterialised blood. The congestive condition of capillaries internally and externally still remains, at least in some considerable degree. The state of the ganglial, or as combined with other nervous force constituting the nutritive system, bears some resemblance to that of the encephalon in hemiplegia, half active, half dormant. The circulations which do appear are wont to be irregular; forcible in some organs, with heat; whilst in others coldness, and inactivity exists. The same disparity is seen in the nervous functions of external relation; plain specimens of ataxia. There exists uncommon prostration of muscular power, with sometimes spasmodic jerks; inability of mind, with coma-vigil; pulse feeble, and frequent, say one hundred and twenty or one hundred and forty in a minute; surface pale, or often dusky, sometimes with petechiæ, vibices, &c., appearing, also, in the internal tissues; blood dark, and mostly destitute of the fibrinous crust, and scarcely coagulating. This train indicates the *typhoid diathesis*, in its highest degree; yet, it often appears with far milder phenomena. p. 66—69.

After concluding what he has to say on semiotice our author presents us with a new system of nosography adapted to his own views of disease. We shall not trouble our readers with any accounts of this new entry for the barren prizes of nosological distinction. That it will soon follow in the multitudinous train of its defunct and departed predecessors, to an early and unlamented exit, it requires no great foresight or sagacity to predict. We shall pass by this portion of the work with the single remark, that even if those systems of classification, which have been most generally received, were less arbitrary and artificial in the principles of their construction, than they are, there would still exist an obstacle in the way of their correctness and completeness, wholly insurmountable. This obstacle consists in our yet imperfect knowledge of the diseases themselves, which are to be the subjects of nomenclature and arrangement. Almost every individual disease is to be characterised, and must be defined, not by some one peculiar element or phenomenon, but by the combination and succession of all its elements or phenomena. This requires, that as an indispensable preliminary to the location of a disease in any system of nosography, the whole natural history of the disease should first be ascertained. This knowledge, we have just said, is still incomplete, and at the time when the most celebrated and popular nosologies were framed, it was exceedingly so. What other, than a provisional and temporary position, could even Cullen and Good have assigned to those diseases which are now most thoroughly and fully known? What means had they for establishing the true places, and giving any thing like full definitions to apoplexy, pleurisy, pericarditis, phthisis, and our typhoid fever, before the researches of men now living had been made? We can have no sound and permanent method of arrangement any sooner or any further, than we ascertain the entire natural history of the several diseases, which are to be the subjects of classification.

The remainder of the work, amounting to 274 pages, is devoted to therapeutics. Diseases, as they are considered under this head, are arranged in four orders. In the first order are included synocha, phlegmasia dolens, rheumatalgia, and all the simple phlegmasiæ. This order, according to Dr. Gallup, is made up of the diseases of the *fibrous tissues*. In the second order, said to consist of diseases of the *mucous tissues*, are placed synochus, catarrh and influenza, bastard peripneumony, phthisis, hooping cough, and hemorrhages from mucous membranes. Order third professes to embrace affections of the serous tissues, and the diseases enumerated under it are *typhoid fever*, and dropsical effusions. Diseases of a complex character, affecting *many tissues*, make up the fourth order. They consist of the malignant epidemics.

Dr. G. states, in another place, that the diathesis depends upon the *tissual* seat, as he calls it, of the morbid concentration. He says if the tissue upon which the weight of the morbid habit primarily and chiefly falls be the fibrous, that the diathesis will be of the pure synochal character; that if the tissue be the mucous, the diathesis will be mild synochoid; that if the tissue be the serous, the diathesis will be mild typhoid, and that if many tissues are implicated, the diathesis will be grave, malignant typhoid. The grounds of this generalization we must leave our readers to discover; they are not stated by the author and they are wholly unknown to ourselves.

We shall extract from this division of the work a few such portions as may possess interest and value in themselves, and serve, at the same time,

to exhibit to our readers the practical views of the author. We copy, in detail, his treatment of what he calls synocha, and we do this because it covers nearly the whole ground of his therapeutics. With some modifications it is adopted by Dr. Gallup in most of the diseases, which it has fallen to his lot to manage.

"If a patient is early visited, and before the repelling force has established vascular action on the surface, then this ought to be encouraged by caloric applied in some agreeable form. No method can be more useful than the warm bath at a temperature of about 98° or 100° of Fah., but this should be accommodated to the patient's feelings. This is often inconvenient and of slow preparation. Then let the patient's legs and arms be bathed in warm water; and if not sufficiently warmed, as he lies in bed apply mild steam of water, more or less, over the body, by processes well known. This is a preparatory process; but care should be taken not to carry it to a great extent, especially if sweat does not flow.

"If the sweat should be urged hard, and continued, there will be danger of the capillary arteries forcing the blood into the interstitial spaces, and producing lesions of circulation, occasioning petechiæ, or at any rate sudamina, and attended with worse effects in the nervous tissues.

"If the patient should be already hot, and skin dry before visited, then merely bathing the legs and arms in warm water will be sufficient. In either event, the first internal medicine except some mild aromatic infusions, will need to be for an adult, about a grain and a half or two grains of tartarized antimony; or about ten of the antimonial powder, or phosphate of antimony.

"The patient will be prepared for the next remedy in about an hour, after taking the antimony; and then, unless, peradventure, there should be a free sweat, and mitigation of pain, venesection should be practised. If this should be the case, the sweat should be continued, and observation made how far it may be relied on in affording relief. It is but seldom the sweats can be relied on, even in a mild state of disease without blood-letting, and this we will next consider.

"The previous measures have been directed, in order to produce as equal circulation as may be obtained at this period; but still there may be much inequality until venesection is resorted to. We now take blood with the intention of reducing, and even removing the nosodynamic state. We therefore say, this remedy is debilitating under all circumstances; and if it is sometimes followed by an increase of energy, it is because it relieves the organic impediments, and emancipates their inability of function.

"But, how much blood shall be taken in a severe case of synochal fever! Shall we measure it! If we intend to arrest the chief force of the disease, render it safe and manageable, or even palliate it at an after period, when it has not progressed beyond the bleeding point, the only measure we want, is an equivalent to the cardiac and vascular force. The rule must be to bleed to the point of relief; and this implies a prostration of the nosodynamic force; and in order to effect this, it is necessary, oftentimes to prostrate the physiological energies. The more early and effectual the bleedings are practised, the sooner the patient escapes the danger of the disease, and with the loss of the least blood in the aggregate.

"In order for this remedy to be the most effectual, let the patient remain in his warm bed, in a recumbent position; take from a vein in the arm, in a full stream, until the pulse falters, and the patient faints so far as to be unconscious of anything, or to deliquium animi. He will no doubt revive, for we never knew it otherwise. As the circulations resume their courses, by a convulsive effort of the recuperative powers, the nosodynamia is annihilated for the present, at least, and the exhalations, absorptions, and secretions assume their natural courses. Sweat flows, and now is the favourable time to continue it by mild and easy measures; that is, continuing moderate external warmth, and aromatic infusions, &c. Also, camphorated powders, or emulsion.

"This change is more certainly produced, if the patient should vomit at the

moment of resuscitation, and the small dose of antimony was given about an hour previous with a view in part, to this result.

"The tokens of the primary cause having been removed, are, an immediate flow of sweat from a previous dry surface; perhaps a change of countenance, and cessation of distress and pain, with a milder pulse. The intention now is, to prevent a return of the severity of the morbid condition; and for this purpose mild sweating should be continued for twenty-four hours, unless pain, heat, &c., should return. In this case sweating ceases. The morbid force has again accumulated. It now becomes necessary, to repeat the bleeding, but without intending to produce extreme faintness; but yet to the point of relief from pain, &c.

"The disease is liable to accumulate again and again, if it has obtained too much fixity at the beginning, and must be early met by efficient remedies. The bleedings should be repeated to the amount of relieving the urgency of the symptoms and rendering the case safe, but not now of suddenly arresting the disease. When bleedings are early practised, they are well borne afterwards to a great extent, if the necessity of the case should require them, and the bleeding point is not soon passed by.

"A case that has proceeded several days without bleeding, ought to be treated very much in the same manner in order to render it more safe; for no further time should be lost; provided, however, it has not proceeded beyond the bleeding point. This is often one of the most difficult questions to decide. When the question is rather doubtful in relation to copious bleeding, it should still be practised, but in a reserved manner. It is often so, that the case cannot do well without it, there being heat, pain, hard pulse, &c. still present. It may be proper to take some blood from the arm, and some by leeches, and observe whether it is well borne, and if so it may be repeated, and probably to the point of relief and safety.

"After fever has continued without bleeding, until there is evidently a failure of vital energy, as manifested by many phenomena, bleedings are liable to diminish the recuperative powers, so that the patient loses the chances of a favourable crisis; or the chances may be diminished by it. Yet, we have often known decided benefits resulting from late bleedings, and in cases supposed to be very doubtful.

"If the case should be attended with a determination to some of the organic viscera, with local inflammation, bleeding should early be extended, in quick succession, to the entire relief of pain. The repetitions should be practised as soon as pain returns after being mitigated, and without delay. Organic changes may take place within twenty-four hours after a re-accession of pain and inflammation, when it had appeared to be removed by previous means. So patients at a distance should be provided with accommodations of relief, during the absence of the medical adviser.

"Considerable observation is necessary to enable the physician to use bleeding to the greatest advantage. The patient should always be in a warm state when it is practised. In any disease whatever, either acute or chronic, the case will do better in the end as well as the time present, to take as much blood as is *necessary*, along with the other aids of remedies, to remove effectually the morbid habit, and without resorting to early tonics or stimulants. When this is accomplished, the healthy actions never fail to replenish the system with sound blood. It is the imperfect cures, or state of cachexy following disease imperfectly cured, that has given origin to the great complaints of Dr. Copland, and others, arising from the loss of blood. Neither are subjects, that lose much blood when necessary in disease, liable to suffer from plethora afterwards, if the previous disease be fully eradicated. The salutary actions soon establish their own healthy adjustments, when not interrupted.

"As soon as the patient has an opportunity after the first process of treatment, he should take a cathartic. According to circumstances, the first should be more or less drastic. If the principal location of pain should be in the head, it should be more drastic. Eight grains of calomel and rhubarb each may be suffi-

cient. If the bowels are in a state of paresis, the case may require more, and the intestines need to be the more acted on. But this is not commonly the fact in the affections under consideration. In ordinary cases the neutral salts will be the best; and cathartics ought not to be so freely employed as to vellicate, or produce excitation in the intestinal mucous tissue. In synochal fever they require to be repeated, usually about every other day.

"If the head remains affected with pain and heat after the bleedings, whilst the lower extremities incline to be anæmic and cold, then the semicupium will become useful. Instead of this, blankets may be wrung out of warm water, and applied several thicknesses over the feet and up to the hips, and continued until the parts become well warmed. This diverts the blood from the plus distended parts to the exsanguious.

"If there remains some pain of a part, as the epigastrium, or abdomen, apply an emollient epithem. A handful of hop flowers infused in water, or spirit and water, thickened with wheat bran makes a convenient application for this purpose; it should be large and thick, as well as of an agreeable consistence. If much coldness exists in a part, sprinkle it well with black pepper; this is better than mustard, as it readily excites without blistering. If there is much heat of a part that is pained, the epithem should be of an emollient kind.

"After sufficient rounds of the above applications, if there should be found tokens of some topical affection in a considerable degree internally, leeches, or cups should be applied. Leeches to the hard and sensible parts, and cups to the soft parts. It appears to be a fact, that after there has been a local affection sometime established, the capillaries keep up for a time an independent action; or it may be slow of removal, and is greatly expedited by local bleeding. These applications should be made early, or as soon as general bleedings have been carried to a considerable extent.

"Nothing hitherto has been suggested in relation to the fashionable practice of blistering with cantharides; a practice we formerly went deep into, but now think it not often necessary in fevers of high action." * * *

"Epispastics add severe, and oftentimes unprofitable stimulations to the general system, as well as to the part. They ought to be avoided in every pyrectic state attended with much heat. Nevertheless, there are circumstances in which they may be useful, especially in protracted fevers. They should always be of ulterior application. If after the general and local remedies, already suggested, have been well employed, there should still be a local pain internally, of some considerable importance, an epispastic may be effectual for its removal. * *

"The practice of using opiate anodynes to mitigate pains in any form of fever, and local inflammations, is greatly to be deprecated; it is not only unjustifiable, but should be esteemed unpardonable; at least, after having heard a warning voice. Whilst these are used no benefits can be obtained by the radical treatment. In fevers of the synochoid character, the state of the diathesis may be such, that a single ordinary dose may put the case out of the reach of all remedies; and the greatest proportion by far of fevers of this climate, are of this diathesis; neither are they scarcely more justifiable in the reputed typhoid habits. Opium in all its modifications aggravates the morbid habit more than alcohol, or any other of the higher stimulants.

"The popular composition vulgarly called Dover's powder, is used extensively on the supposition, or pretence, of the hurtful effects of the opium being altered, or neutralized by its other ingredients. There is no modification of opium that alters its effects when given in a competent dose to affect the system. The black drop, and morphia have very nearly, if not entirely the same effects in stimulating the general system, in an adequate dose to ease pain, that the extract of opium has. These pretences are erroneous and delusive; for we have seen the latter as certainly fatal as the *ticute upas*, if not quite so speedily.

"These articles may occasionally be used in some conditions of distress, of the more strictly neuralgic kind, to much temporary benefit; also, a single dose at the onset of severe dysentery, cholera and ataxic fever; but after even these diseases have passed the stage of extreme irregularity, they add greatly to the danger; indeed, every condition of the established pyrectic habit is made worse

by them, if not irremediable. It is probable, that for forty years past, opium, and its preparations have done seven times the injury they have rendered benefit on the great scale of the civilized world." * * *

"During the progress of synochal fever, considerable advantage is gained by small doses of some antimonial preparation, one given in the morning about 8 o'clock, and at about the same hour of the evening. The quantities ought to be just sufficient to excite a slight nausea, and if there should be any thing in the stomach that ought to be dislodged, it may excite emesis once or twice. If, however, the dose should not be so great as to excite even nausea, it will have a beneficial effect in promoting the secretions, and inducing composure. If we are not greatly deceived, this article has many times produced a tranquillizing effect in fever, so that the patient obtains more rest at night. It also favors an easy and salutary crisis, by directing the efforts of the system to some of the emunctories, as the skin, kidneys, or intestines. pp. 180—9

Phthisis as has already been said, is placed among diseases of the mucous tissues, and fifty pages are set apart for its consideration. The doctor re-asserts its curability, says nothing new of its causes, makes a blind thrust at the stethoscope, lays down some sensible prophylactic rules, and devotes twenty pages to the subject of its management, which may be thus briefly summed up. Let the patient live in a uniform temperature of about 75° Fah.; let him take, for one or two months, a warm bath, every night or every other night before going to bed; in the early stage let there be a pretty full bleeding which must be repeated at *short* intervals, perseveringly, whether the diathesis be synochoid or typhoid, till the morbid habit is removed. Give an emetic of antimony or of ipecac. every day or two; use demulcent drinks; after the pyrectic excitement is subdued, or when there are excavations in the lungs, administer tonics cautiously, apply counter-irritants to the chest, under the same circumstances; resort to agreeable exercise, and, above all things, eschew opium. This latter condition is insisted upon with so much emphasis, and constitutes so striking a peculiarity in our author's treatment, that we subjoin his opinions at length. Speaking of narcotics he says,

"We do not wish to stop and dwell on negative treatment: but as these are recommended by even some late writers, and so much used, they are introduced for the purpose of disapproval. From much observation of our own, we are assured no progress can be made in the removal of constitutional pyrectic affection, whilst opiates, or any other narcotic is used. Every case in which they have been used antecedently to the treatment, is sure to be rendered more uncertain, as respects a favourable result; unless we may except digitalis in a limited manner.

"The same remarks already made in relation to the use of narcotics in the acute morbid habit, (Sec. xlvi. 1, i.) will apply in the chronic, and in an especial manner as relates to phthisis. We insist that no progress can be made in the removal of the disease whilst narcotics are used in any form. We impute the failures of those who have attempted the treatment of phthisis on some just principles, in a great measure, to the use of these deleterious agents, so freely intermingled with almost every other remedy. In part, however, in not having just views of the character of the disease.

"We have, on several occasions, shown the illusions which have led to their use; and we may now merely notice, that they are the highest stimulants ever introduced into the materia medica. They retard the exhalations, absorptions and secretions; render the tissues dry; afford a delusive truce to painful sensations, by diminishing the sensibility of external relation, and ultimately aggravate every phenomena.

"They co-operate with the *remote* and *proximate* causes of phthisis, and serve to fix the primary changes in the inmost tissues more permanently, and render

them more difficult of removal. Internal engorgements, or infarctions, are increased by their use, even in small doses; and every post mortem examination in subjects destroyed by narcotics, shows a violent state of congestion in the internal tissues of the head, thorax, and abdomen, similar to those produced in the internal tissues in the most malignant fevers.

"It is an unfortunate circumstance, that those who have advised their use in phthisis, have no better understood its pathological character, than the properties of these deleterious agents. There is something more than mere local irritation in the former, and the latter are something besides soothing sedatives. Many are more mistaken in these respects, than the deluded dram-drinker is in conceiving that another alcoholic draught will surely do him good. Their soothing influences are quite as brief, and their sequences more certainly pernicious.

"We freely declare, if compelled to use laudanum, Dover's powder, opiate cordiale, or cough drops, &c., we would never attempt a radical cure of phthisis pulmonalis in any of its varieties. In the last stage of a forlorn case, they are more justifiable, in small doses; and yet a previous well conducted case will hardly need them, as the calm composure of the downward way is commonly disturbed by their use. In their omission, there is no running the risk of exciting a repulsive delirium, or a forbidding lethargy." pp. 282—4.

Departing from the rules which he had laid down for himself, and impelled thereto, undoubtedly, by a full consciousness of the necessity of sustaining his assertions by some positive evidence, Dr. Gallup reports two cases, and we have a right to suppose the two strongest cases furnished by his experience, illustrative of the efficacy of his mode of treatment. The first is that of Dr. Gibson, who, after thirteen bleedings, so far recovered his health, as to practise his profession some eighteen years, at the end of which time he is admitted to have died of phthisis. The second is that of a lady supposed to have had the disease for twenty years, who in the course of two years was bled twenty-eight times, and who is still living. To any physician fully acquainted with the character of phthisis, it is wholly unnecessary to say, that the occurrence of two such cases, or of half a dozen such, during the lifetime of a practitioner, has in it nothing at all unusual. In 114 cases reported by Louis, the duration of the disease was, in one instance, ten years; in two, twelve years; in one, fourteen years, and in one, twenty years. Such cases have always been occasionally met with, but there is no evidence, whatever, that they are prolonged by bloodletting, or by any peculiar method of management. The fact itself, that the deposition and development of the tubercular matter, and the progress of the disease, are in a few rare instances suspended for a long period of time, or entirely arrested, is well established, but, unhappily, the causes which bring about this auspicious result are not yet ascertained.

Under the third order, claiming to embrace diseases of the serous tissues, we find typhoid fever. Dr. Gallup adds nothing to our knowledge of this very common and important malady. His treatment of it consists in the early use of the warm bath and of transient and diffusible stimuli internally; frequent emetics of ipecac.; occasional moderate doses of calomel and rhubarb; moderate blood-letting; effervescing and refrigerant drinks, and, in nearly all cases, an avoidance of opium.

The concluding portion of the work is taken up with the character and treatment of the malignant ataxic diseases, among which are enumerated typhus gravior, plague and yellow fever, cynanche maligna, epidemic pneumonia, cholera, malignant dysentery and puerperal fever. Dr. Gallup's treatment of this class of diseases may be thus generally stated. In

the first stage of oppression, heat is to be applied to every accessible part of the body, external and internal, and light diffusible stimuli are also to be administered. As soon as the surface begins to grow warm, an antimonial emetic is to be given, and when by the use of these means any considerable degree of reaction begins to manifest itself, the lancet is to be resorted to, and used with freedom or reserve according to the peculiarities of each individual case. Opium, and all the high and permanent stimuli are to be scrupulously withheld.

We shall here close our notice of Dr. Gallup's book. We have bestowed upon it that full and sober attention which its claims and character appeared to us to demand. Of its peculiarities of style and grammar we have said nothing. These are matters of minor importance. We have aimed to state its doctrines fairly, and in the expression of our own opinions, while we have nothing extenuated, we have set down nought in malice. We have quoted freely from the therapeutical portions of the work, and so far as the author's practical maxims and measures are the result of observation and trial, and no farther, they are deserving of our attention. But we are obliged to add that they must be received with many allowances and with great caution, for reasons that have been already given. We regret that this is so. We regret that the value even of these better parts of the work before us is so much impaired by the coloured and refracting media through which the author has witnessed all morbid phenomena and all remedial processes. Dr. Gallup, with his well known indomitable energy of character, and his untiring perseverance, and with the wide and rich field of observation, in which he has passed a long and busy life, had he adopted a true method of investigation, and carried it out with that zeal and earnestness, which mark his devotion to a false and profitless philosophy, might have now given to the medical public a work of inestimable value. His most active and vigorous years were spent among a hardy, temperate, and rural population, in a region of remarkable general salubrity. His professional rides have been, not through the narrow, and dark, and noisome lanes of some huge metropolis, where poverty, and vice, and filth are huddled together with wretchedness and disease, but over the green hill-tops, and along the fresh clear rivers of Vermont, amid scenes that might have brightened the smile and gladdened the heart of Hygeia herself. But even here, where every breeze seems laden with health, epidemic disease in many of its most fearful and intractable shapes, has been but a too common visitant. During Dr. Gallup's residence here, dysentery, pleurisy, typhoid fever, scarlatina and spotted fever were frequently and extensively prevalent in their most malignant and destructive forms. A full and accurate history of all the phenomena of these successive epidemics—of their varying phases in different localities, and years, and seasons—of their symptomatology—of the condition of the organs in the fatal cases—of their rate of mortality—of the influence of age and sex, and of the effects of remedies, derived from close, attentive and truth-seeking observation, would have been welcomed by the profession of the present day with unmingled gratitude and delight. It would have been to medical science an invaluable contribution and a source of lasting honour to its author. But this work has not been done: it can now never be done: the materials for it are irretrievably lost. And the same thing is true of most of the epidemics, which have at one time and another, devastated nearly all parts of the

world. They have been, for the most part, so imperfectly studied and described, that we can now form only very indefinite and fragmentary conceptions of their real character. Even the great work of Sydenham on epidemic diseases constitutes no exception to these remarks. We cannot now tell from his descriptions, whether his fevers are identical with the typhoid of New England and Paris, with the petechial typhus of Philadelphia and Great Britain, or with neither of these diseases. There is now but one true course for us. Leaving the past we must turn to the future, and under the guidance of a better method, and in the spirit of a sounder philosophy, begin anew the study of disease. The primordial and ultimate affinities and actions of the living organism are wholly beyond the reach of our investigation. We must cease to build upon this false and treacherous foundation, our theories of disease. We must cease to speculate about those things which we cannot know. At least we must cease to call this speculation, knowledge, to deduce from it our systems of pathology, and our indications of treatment. All this medical transcendentalism we must abandon; and we must give in our hearty allegiance to the simple, but stern requisitions of a rigorous and strictly inductive philosophy. In due season we shall reap our reward. One after another we shall find the established LAWS and RELATIONS of morbid action naturally and spontaneously evolving themselves, the necessary and inevitable fruits of our researches. Our therapeutic and hygienic indications will then become more determinate and settled, and the conjectural act will be gradually conformed into one of fixed and positive rules.

E. B.

ARTICLE XII.—*Outlines of the Principal Diseases of Females, chiefly for the use of Students.* By FLEETWOOD CHURCHILL, M. D., Dublin, 1838, 8vo. pp. 402.

A FULL and accurate digest of the present state of our knowledge in relation to the pathology and treatment of the diseases peculiar to the female sex, is a work much wanted by the profession. Scarcely any class of diseases have received more attention than these, or in the investigation of which a greater amount of industry and talent have been engaged, and yet, there are few perhaps, the nature and proper treatment of which are less understood, or in which gross mistakes are more frequently made by physicians of ordinary skill and experience.

This results from various causes:—On the one hand, from the extreme obscurity of many of these affections, especially in their earlier stages; causing the patient herself often to overlook them entirely, or more frequently, to deceive herself as to their real character and location, and thus inducing her, in connection with the promptings of a false delicacy, to mislead her medical adviser, if he be not fully on his guard, as to the cause of the suffering and other morbid phenomena of which she complains, by withholding from him, the very facts necessary to enable him to arrive at a correct diagnosis and an effectual mode of treatment. On the other hand, it arises, from much of the valuable information we possess in reference to the diseases of females, being scattered through

various foreign periodicals, or, comprised in other works, but little acceptable to the great mass of our profession. To the student and young practitioner, especially, these affections are peculiarly perplexing.

To present, in a form adapted for their use, the pathological and therapeutical facts, in relation to the maladies incident to the female sex, deduced from the observations and experience of the most authoritative physicians, in different parts of the world, is the leading object of the work before us; which, although the author claims for it no higher character than that of simple outlines, compiled from the writings of others, with the addition of "whatever information he may have acquired from hospital or dispensary practice," presents, nevertheless, a tolerably accurate, though concise digest of the present state of medical knowledge, upon the subjects treated of; which, while it is well adapted for the use of the junior, as well as senior students, may, on many particulars, be consulted with profit by the generality of young practitioners.

The arrangement adopted by Dr. Churchill in the present outlines, is a somewhat unusual, though, in our opinion, a very judicious one.

The text contains a concise outline of the pathology and treatment of each disease, without any detail of controversies or conflicting opinions, which, whenever they appear of sufficient importance, are given in full, in the notes appended to each page.

"So that the junior student, by confining his attention to the text, may acquire elementary information, which may be subsequently extended by consulting the notes and references.

"In the notes, likewise, will be found extracts from various authors whenever the support of their opinions seemed desirable." "Any remarkable and authentic cases which bear upon the subject, have been also inserted, for the double purpose of elucidation and description."

The work is divided into two parts, the first treating of diseases of the external genitals; the second, of those of the internal genitals, comprising four sections devoted respectively to the affections of the vagina, uterus, fallopian tubes and ovaries.

The histories of the several diseases treated of, are, throughout, sufficiently clear and accurate; of course, the more minute details, however invaluable for the formation of a correct diagnosis, we are not to look for in a work of mere outlines, like the one before us. The pathological views detailed by the author, more especially in the second part of the work, are, in general, those entertained by the most distinguished physicians; occasionally, however, we are persuaded that a more minute investigation of the facts upon record, would have induced him to reject as altogether unsatisfactory, the views he has presented, while, in a few instances, the vagueness of expression which characterises this portion of the outlines, detract not a little from their merit and usefulness. The remedial measures that have been found by experience to be best adapted for the removal or amelioration of the maladies under consideration, are, in most instances, clearly described—although, in more than one instance we notice important omissions under the head of treatment, and too often, a use of general terms calculated to communicate no exact, and of course, but little useful information to the student.

The first part of the outlines, as we have already remarked, treats of the diseases of the external genitals, and is the least satisfactory of the two, into which the work is divided. The subjects of the first four chapters,

which are comprised in less than six pages, are phlegmonous inflammation of the external labia, encysted tumours of the labia, oozing tumour of the labium, and warty tumours of the vulva. The fifth chapter, on itching of the vulva, though more extended than the preceding, is altogether unsatisfactory, and in some particulars, inaccurate. This affection, we have found to be one of extremely frequent occurrence, and it is in most cases, highly distressing to the patient. Of the condition of the vulva and vagina in cases of pruritis, so accurately described by Dewees, no notice whatever is taken. The author appears also to have followed entirely those writers who have confounded this affection with furor uterinus or nymphomania—a gross mistake, the source of which it is difficult to understand, as the two affections may be readily distinguished by an accurate observer; we have, ourselves, never seen them even occur simultaneously. Dr. Churchill's account of the causes of pruritis vaginæ, is extremely vague and conjectural; what is meant by "the irregular disturbance of the genital system," which occurs about the cessation of the menses, and is included by the author among the causes of pruritis, we have puzzled ourselves in vain, to determine.

From the use of the several remedies recommended in this chapter, we have seen very little or no benefit to result, with the exception, perhaps, of the local application of cold water, frequently repeated. The remedies that have with us most often succeeded in allaying the intolerable itching, are a strong solution of borax as recommended by Dewees—a solution of sulphate of copper, and a wash composed of a few drops of creasote diffused in water. In very many cases, however, no one of the remedies employed have succeeded in removing the disease, often not producing even the slightest alleviation.

The ensuing chapter, on inflammation of the mucous membrane of the vulva, is a very good one. The disease is often met with, especially in infants, in regard to whom proper care has not been taken to keep the parts perfectly clean and dry; it is likewise of not unfrequent occurrence in older children, and when overlooked or neglected by the parents in its earlier stages, is apt to assume a chronic and very troublesome form. In these cases we have not found the disease so invariably confined to the mucous membrane of the vulva, as described by Dr. Churchill, but extending into the vagina, and occasionally to the urethra, and then causing the utmost distress to the patient whenever the urine is voided.

The two remaining chapters treat of enlargement of the clitoris, and of tumors at the orifice of the urethra; they are sufficiently accurate.

Of the second part, the initial chapter treats of diseases of the vagina.

Vaginal leucorrhœa, which is first considered, the author refers, in common with many, perhaps the majority of the most authoritative writers, to inflammation, either acute or chronic, of the mucous membrane of the vagina. In very many instances, there can be little doubt that the disease is attributable to inflammation of that membrane; there, nevertheless, frequently occur, cases of leucorrhœa, in which the discharge is very copious and difficult to arrest, and depending apparently upon an alteration of tissue in the vaginal mucous membrane, in consequence of which it secretes, instead of the ordinary mucus, a fluid morbid in its character as well as in its amount, and unaccompanied by the slightest trace of inflammation. This alteration of tissue, may, it is true, have been induced by inflammation, but cannot, with propriety, be considered as being iden-

tical with the latter in even its most chronic form. The fact is, that notwithstanding all that has been written on the subject of leucorrhœa, we are but little acquainted with its true pathology, and, in consequence, its treatment is in a great measure empirical and uncertain. Its extreme prevalence, and the very great inconvenience it almost always occasions to those who are affected with it, demands that a greater degree of attention should be paid, to acquire accurate views of its nature, leading to an efficient plan for its prevention and cure. The remedies which the author briefly enumerates, we have found in numerous cases to produce no beneficial results, nor do we know of any that will be found more generally successful.

The chapter on inflammation of the glandular structure of the mucous membrane covering the cervix uteri, is derived almost entirely from Clarke's work on Diseases of Females.

As a very fair specimen of the author's text, we present the whole of the chapter on granular inflammation of the mucous membrane of the cervix uteri—an important disease, which was, until recently, entirely overlooked, and is still frequently confounded, by inexperienced practitioners, with affections of a very different character.

"As this is a disease which can only be discovered by ocular examination, we could not expect to find any description of it in the older writers; but since the adoption of the speculum as a means of investigation, this and other morbid phenomena are much better known. The best, and indeed almost the only account of it will be found in the valuable work of Boivin and Dugès.

"These granulations, which may be seen on the labia of the os uteri, and on the external surface of the cervix, are the result of acute or chronic inflammation, and the two forms differ considerably.

"*In the first species*, or that resulting from *acute* inflammation, the granulations are occasionally few in number, about the size of peas, sub-pediculated, firm and whitish; more frequently, they are of the size of millet seed, whitish, but soft, as if vesicular, in great numbers, and without a pedicle. The contact of the speculum, or of the finger, or the act of defœcation merely, gives rise to a discharge of blood from the membrane of the cervix uteri.

"In the second species, the consequence of chronic inflammation, the granulations are either small, hard and whitish—reddish and soft—or miliary, without redness of the surface of the cervix uteri from which they grow.

"The usual *symptoms* are pain and vaginal discharge. In the acute form, there is considerable redness, and vascularity of the parts, which bleed when touched. In the chronic form, these two characteristics are absent. There is some tenderness about the os uteri, with pruritis of the external parts, sometimes nearly causing nymphomania.

"The *causes* are extremely obscure. In some cases, it appears to arise from derangement of the catamenia, or from cold caught during menstruation or after abortion; in others, it appears referrible to cutaneous or syphilitic disease. Not unfrequently, it co-exists with induration or other organic change of the cervix.

"The *diagnosis*, with the aid of the speculum, is tolerably easy; but without it, it will require great care and a sensitive touch, as the granulations, when large, are generally soft, and when hard, are almost always very small.

"The most successful *treatment* consists in local bloodletting by cupping or leeches in the first instance, and in acute cases; followed by warm bath, emollient vaginal injections, and counter-irritation.

"In the chronic form, bleeding will rarely be necessary. Astringent or stimulant injections will be found most efficient, especially a solution of the nitrate of silver. Tonics (particularly the metallic) or mineral waters will generally be found very useful.

"Counter-irritation, by blisters on the sacrum or cauterization, will be found

to exercise a decided influence over the progress of the disease. Should there be any suspicion of a syphilitic origin, specific remedies must be employed. Every source of irritation should be carefully avoided."

The chapter on thickening of the cellular membrane surrounding the urethra, with a varicose state of the vessels, a disease frequently met with in females who have borne several children, is condensed chiefly from the work of Sir. C. M. Clarke.

The succeeding chapter on prolapse of the vagina is a very excellent one, presenting a very full and satisfactory outline of the causes, symptoms and treatment of an affection by no means of uncommon occurrence, and which from its being occasionally mistaken for prolapsus of the uterus demands to be well understood, especially by the young physician that he may be on his guard not to be led into an error of this kind. For a more extended study of this affection the references in the notes will be found useful.

Two short but interesting chapters on abscess between the vagina and rectum, and on tumours in the pelvis external to the vaginal canal, close this section.

Before proceeding to the consideration of the special diseases of the uterus, which form the subject of the next section, the author presents a few very general observations on their pathology and diagnosis. These will be found of great use to the student, especially the remarks on the modes of investigating the existence, extent, and character of these diseases by a manual or tactile examination, and by a visual examination by the speculum. The following extract is offered as a specimen of the manner, in which this subject is treated. We are prompted also to make the extract from this the only correct plan of investigating the diseases of the uterus being too often omitted entirely, or at least neglected in their first stages.

"In all investigations into the symptoms of uterine disease, we should, first of all, localise the complaint as far as possible, and then discover its effects upon the different functions. The discharges should be carefully examined, and their relation to the menstrual secretion ascertained, i. e. whether they occur about the same time or during an interval, whether they increase or diminish before or after the appearance of the catamenia, whether their colour varies from what is usual? or, if they possess an offensive smell? if the discharge be sanguineous, we should discover whether it commenced at a menstrual period? whether it is accompanied by pain or bearing down? These points should all be cleared up as far as possible, and even then there will often remain much that is doubtful. But as if to compensate for the insufficiency of the ordinary symptoms, we are possessed of other means of acquiring a knowledge of these complaints, which, combined with what I have already noticed, will, in most cases, leave us without excuse for any mistakes we may make. I allude to the power of making a manual or tactile examination. The extent and accuracy of the information derived from this source is very remarkable. By the '*toucher*' we are enabled, with considerable certainty, to decide the question of functional or organic disease. We can ascertain the degree of heat and moisture of the vaginal canal, the character of any discharge, the state of the cervix and part of the body: we can discover the presence of ulceration, of laceration, of displacements, with the exact amount of the mischief: we can detect the existence of scirrhus, cancer, or of morbid growth; by combining internal with abdominal examination we can throw light upon the distinction between uterine enlargements and pregnancy or ovarian disease. These and many other practical observations are the result of this mode of investigation. The principal points to which our attention should be directed when making the examination are; the state of the vaginal canal as to calibre, heat, moisture and sensibility, the condition of the pelvic cavity,

whether unusually empty, or filled, and by what? the elevation of the os uteri, its patency, sensibility, and integrity, the density of the cervix, its sensibility and freedom from morbid growths or ulceration; the position and volume of the womb, its mobility and sensibility. The nature of the discharge will be observed on the withdrawal of the finger. If there be a breach of surface, its extent should be ascertained and the coexistence of morbid deposition investigated. If hemorrhage, the state of the fundus and cervix is of importance, and also the existence of a fungous or polypous production. With regard to the two latter, it will be proper to discover, if possible, their attachment, and to inquire as to the possibility of their removal by ligature or excision."

After some remarks on abdominal palpation and examination per rectum, the author adds:

"We have seen, that by the touch, in connexion with the local symptoms, we can obtain information on all points, except that of colour, and the accuracy of the knowledge so acquired, is scarcely, if at all, inferior to that obtained by sight. It is very true, that a delicate sense of touch, and much experience is necessary, before this degree of perfection will be obtained, but it is equally certain, that perseverance in availing ourselves of every opportunity (both on the living and dead body) will ultimately be crowned with success. The only deficiency in our means of diagnosis (viz., the not being able to examine the parts by sight), has been supplied of late years by the introduction of the *speculum*, and to this we undoubtedly owe the extension of our knowledge of uterine and vaginal disease. Some new ones have been observed, and others already familiar have been accurately described."

The speculum "enables us to detect variations from the natural colour of the mucous membrane—slight erosions which might be passed over by the finger, elevations on the cervix uteri, or on the walls of the vagina, too little raised to impress the sense of touch. The length and thickness of the cervix uteri, can be accurately ascertained, and we are able to discern the colour of the surface of an ulcer. It will also confirm many other circumstances which have been recognised by the '*toucher*.' In a practical point of view it is very valuable, as enabling us to apply remedies (such as leeches, caustics, &c.) to the very part affected, without injury to the neighbouring organs. On the other hand, we must be careful that we do not mistake for morbid changes, those appearances which are caused by the instrument itself. For instance, too much pressure may alter the elevation and position of the uterus, and may produce a swelling and puffiness of the cervix. The speculum should not be used at all when the vagina is very tender."

The notes to this preliminary chapter contain much useful matter.

In speaking of the catamenia the author seems to consider the opinion of Mojon de Genes, that there exists no *peculiar* secreting apparatus for the production of the menstrual fluid, as a hypothesis altogether untenable. It is nevertheless the opinion of the best modern physiologists, founded upon considerations which can scarcely be overturned, that *all secretions* are separated from the blood without the intervention of any *peculiar* secreting apparatus in the sense in which our author employs the term—that they all take place by permeation through the coats of the blood vessels.

In the section which is devoted to the disorders of the menstrual function a very excellent outline is given of all the more important facts connected with the subject. To treat, however, as the author has done, of each derangement of this function as a disease, is in our opinion not calculated to lead to correct practical views. To consider the disturbances to which this function is liable in any other light than as phenomena dependent on certain morbid conditions with which the uterus itself is either directly or indirectly affected, and to the removal of which our remedies are chiefly

to be directed is not only a very gross error in pathology but one very liable to induce very serious mistakes in practice. The mere non-occurrence, suspension, irregular return or excess of the menstrual flux being in itself of comparatively little importance in comparison with the cause upon which it may happen to depend, nearly all our efforts directed to restore the discharge when absent, to restrain it when too profuse, or to cause it to recur at the proper periods, without a direct reference to the morbid condition of the uterus or the other organs giving rise to the disordered menstruation, will either fail in the attainment of the desired result or endanger the production of more serious injury than the mere disturbance of function they are resorted to to remedy.

Chlorosis the author treats of as invariably arising from disturbance of the menstrual flux, and lays down the first and most important indication in its treatment to be the removal or mitigation of such disturbance. Now it must be evident from a minute and cautious investigation of this disease, that in the majority of instances the disturbance of the uterine function is secondary to and dependent on the spinal disease, defective nutrition, and anemia which give rise to the various groups of symptoms to which the general denomination of chlorosis has been given, and which occur, under particular circumstances favourable to a deterioration of the general health and vigour of the organism, as well in the male as in the female. Hence the extreme folly and mischievous tendency of directing our attention primarily and mainly to restore the regular performance of the menstrual function, in the female, by remedies which are supposed to act directly upon the uterus.

The Outlines, of the author, on the pathology and treatment of Dysmenorrhœa, occupy ten pages, presenting a very ample summary of all that is known in relation to this distressing affection. His chapter on menorrhagia is also a very good one; we find very little of a controvertible character in his account of either its pathology or therapeutics. We are not prepared, however, to admit that the real menstrual discharge is very frequently so profuse as to render necessary the adoption of any very energetic remedies to moderate or restrain it. We believe that in every instance menorrhagia, as it is termed, or a morbid discharge of blood from the uterus, is a true hemorrhage, and invariably to be treated as such.

Some very judicious remarks are offered by Dr. Churchill in his chapter on cessation of menstruation, which physicians will do well carefully to attend to; for there still exists a very erroneous notion as to the extremely critical state of the health of females at this period, and the necessity of subjecting them to a proper preventive treatment.

"The period of this great change (cessation of menstruation) is," Dr. C. remarks, "about the age of 45 or 50; it is referred to by females as the 'time of life,' and is dreaded by them from a belief in its excessive mortality. This opinion probably originated with medical practitioners; it is at all events, advanced by the older writers.

"The mistake (for such it is) has probably arisen from comparing the mortality of females at this period with that at any earlier period; comparing, in fact, old and nearly worn out women with the young and strong. We should expect the deaths among the former to preponderate* but this is no reason for

* "Even this would appear somewhat doubtful, for M. Constant Saucerotte has attempted to prove by statistics, on a grand scale, that the mortality amongst women is greater between the ages of 30 and 40 than between 40 and 60. Muret in his statis-

attributing any peculiarly fatal influence to the subsidence of the uterine function. We ought, in truth, to compare the mortality in the opposite sexes at the same age, and we shall then arrive at a different conclusion.

"M. Benoiston de Chateauneuf has recently shown, by extracts from burial registries, that the mortality between the ages of 30 and 70 is not more considerable amongst women than men. But if the comparative mortality be less than was supposed, there can be no question as to the importance of this period; for in many cases, we find uterine and ovarian disorders dating from thence, and we know that it is about this time generally that the more malignant diseases commence. How far they may be owing to neglect at this period, it is very difficult to say; we must suppose, however, that the anatomical state in which the uterine system is left on the arrest of its function, must exert a certain amount of influence in their production."

Healthy women, the author very properly remarks, at this period, often get much fatter, the abdomen and breasts enlarge, and they not unfrequently persuade themselves that they are pregnant.

"Occasionally there seems to be a disposition to irregular distribution of blood, local congestions, &c.; but more frequently the health is improved. This is especially the case with those patients who have suffered much from dysmenorrhea or irritable uterus. Delicate females, and especially those subject to menstrual derangements previously, are exposed to local diseases of the sexual system, and especially to that series of changes which issues in confirmed disorganization. This is the more to be apprehended if she have already been the subject of uterine disease, or if at the time any such disease be latent, and on our part it will require attentive examination and considerable practical skill."

In the chapter on the constitutional effects of the disorders of menstruation the author has described a series of symptoms some of which are no doubt immediately dependent upon derangement of this function, while much the greater number, although they may very generally accompany such derangement, we have room to believe, are improperly considered as its effects; they depend evidently upon the same morbid condition of certain organs to which the disorder of the uterine function is itself to be attributed. This is especially true, as we have already remarked, of the morbid phenomena constituting the disease denominated chlorosis.

In his account of the irritable uterus Dr. C. has followed Gooch almost exclusively. Many important additional facts connected with this disease, and the correction of some of the errors into which Gooch has been led, the author might have derived from the works of Addison and Dewees and the very interesting essay of M. Genet. As a means to assist our diagnosis, the pulsating, throbbing, or fluttering sensation within the vagina or pelvic cavity, which according to Dewees, differing in degree, is an almost invariable attendant upon irritable uterus and marks it in a special manner, forms an all important item in the list of its symptoms.

The chapter on uterine leucorrhœa is full, clear and highly interesting; and the same remark may be made in relation to the two succeeding chapters on physometra or uterine tympanitis and on hydrometra or dropsy of the womb, affections which though of not very unfrequent occurrence have had very little attention paid to their pathology. By many we have found even the possibility of their occurrence to be unsuspected. The chapter on moles, &c., of the uterus presents a very instructive digest of

ties of the *Pays du Vaud*, did not find between 40 and 50, a more critical age for women than between 10 and 20. M. Lachaise in his medical topography of Paris, has given similar evidence. *Lisfranc, Mal. de l'Uterus*, p. 202.

the principal facts in relation to their pathology, with copious references o the several sources from which more detailed information may be derived.

The student will find in the succeeding chapters of this section a very able outline of the present state of our knowledge, in relation to the remaining affections of the uterus. The best authorities have almost in every instance been carefully consulted, and from their writings many interesting extracts have been introduced into the notes appended to each page: much valuable information may be derived, even by the practitioner, from a perusal of this portion especially, of the Outlines.

In the very excellent chapter on prolapsus uteri, the author speaking of the use of the pessary, and describing the various forms of the instrument that have been recommended by the more distinguished writers on this subject, remarks:

"Various objections have, at different times, been made against the employment of pessaries, and latterly they have been repeated, and urged with all the moral weight derived from long experience and high standing in the profession.

"As far as I have seen, they may be arranged under the following heads:

"1. They are indelicate.—(*Leake.*)

"2. If too small, they will not rest in the passage, but be forced out, and consequently do no good.—(*Leake.*)

"3. They irritate the vagina, and give rise to leucorrhœa.—(*Hamilton,*) especially if too large, (*Leake, Murat.*)

"4. They cause irritation, ulceration, and fungous growths.—(*Murat. Annan. Hamilton. Dieffenbach.*)

"5. They give rise to putrid discharges from the vagina.—(*Murat. Dieffenbach.*)

"6. They occasion dilatation of the vagina.—(*Dieffenbach.*)

"7. They cause contraction of the same organ.—(*Dieffenbach.*)

"8. Patients have suffered under irritation of the bladder or constipation, whilst using them.—(*Dieffenbach.*)

"9. The pessary may become so incrusted with earthy matter, as to require breaking before it could be extracted.—(*Murat. Dieffenbach. Hamilton.*)

"10. The pessary has been known to make its way through the walls of the vagina, and into the rectum.—(*Dieffenbach. Annan. Hamilton.*)

"With regard to the first objection, if true, the operation only shares equally with all midwifery operations; nay, it is not a whit more indelicate than making a vaginal examination. If the second or third objections be valid it must be owing to an error in calculation, and if the operator be watchful, he will speedily obviate it. The fourth, fifth, eighth, ninth and tenth are only applicable to cases of gross neglect on the part of the patient or medical attendant, and cannot for a moment be admitted as any argument against the proper use of the pessary. As to the sixth and seventh, they cannot both apply to one case. Undoubtedly, a pessary will keep that portion of the canal in which it is situated, in a state of dilatation, but with equal certainty, the vaginal orifice will be relieved from the distension caused by the prolapsed uterus, and if every time the pessary be changed, one of a size smaller be introduced, it will be found quite adequate, and in many cases, a permanent cure may, at length, be obtained.

"With due respect, therefore, to the eminent authorities just quoted, their arguments do not seem conclusive against the proper use of pessaries. On the other hand, there is ample evidence from well authenticated facts, to show that the judicious employment of these instruments, so far from being injurious, is in many cases beneficial, and even preferable to any other plan of treatment."

Dr. Churchill very properly notices the operation proposed by Mr. Girardin, as a means of affording a more decided and permanent mode of relief in cases of prolapsus uteri, than that obtained from the best constructed pessary. It is an operation similar in principle to the one adopted

for the cure of prolapsus ani by Hey and Dupuytren, and has been performed with some modifications in Britain, by Doctors Marshall Hall, Heming and Ireland; in Germany by Professor Dieffenbach, Doctor Fricke, &c., and in France by Velpeau and Berard. The author's outline of the facts in relation to this operation are sufficiently full, and his reference to authorities very complete.

An interesting chapter is given on the Diseases of the Fallopian tubes; while the concluding section treats of the diseases of the ovaries—of the leading facts in relation to the pathology and treatment of which, a very complete digest is presented with copious notes and references. From the very great obscurity of the majority of these affections, particularly in their earlier stages—the slight amount of attention that has been paid to their investigation—the difficulty if not impossibility of removing or arresting them when they have eventuated in a change in the texture of the organs, and our ignorance of the means proper for their prevention, the present section of the Outlines is far less satifactory than either of the preceding. This, however, is the fault of the subject—the author has brought together the few facts known in relation to the ovarian diseases, and future, more extended observations must be the means resorted to, in order to supply, if possible, whatever is deficient in relation to these affections, which are of more common occurrence than is generally suspected.

The foregoing remarks will enable our readers to form a tolerably just estimate of the plan and value of the work before us. We have not considered it either necessary or proper to enter into an extended review of it, or to note each particular in which our own experience would lead us to differ from the views advanced by the author, and the few instances in which he has, in our opinion, failed in exhibiting an accurate digest of all the facts known in relation to the subjects of which he treats—while the extremely condensed form in which the valuable matter comprised in these Outlines is presented, precludes any attempt at analysis.

As an introduction to the study of the principal diseases of females the work will be found, we are persuaded, a very excellent and useful manual. Even by the practitioner who is precluded by the want of the means or the time from a frequent reference to the numerous standard works on the affections peculiar to the female sex, it may be consulted with advantage.

There yet remains, Dr. Churchill remarks, two classes of the diseases of females not included in the present volume, namely, those occurring during gestation, and in childbed. These will form the subjects of another volume, should the plan of the present one be approved. As this can hardly fail to be the case, we may confidently expect the appearance of this proposed extension of the Outlines. The diseases of pregnancy and childbed are, if possible, even more important than those of the unimpregnated state, and in relation to which a vast amount of valuable information is placed beyond the reach of the generality of students. D. F. C.

ARTICLE XIII. *De l'Albuminurie ou Hydropsie causée par maladie des Reins; modifications de l'urine dans cet état morbide, à l'époque critique des maladie aigues et durant le cours de quelques affections belieuses.* Par le Dr. MARTIN SOLON, Médecin de l'Hôpital Beaujon, Agrégé à la Faculté de Paris, Professeur particulier de Matière Médicale et de Thérapeutique, Membre de l'Académie Royale de Médicine, Chevalier de la Legion d'Honneur. Avec planches coloriées. Paris: 1838.

Of Albuminuria or Dropsy caused by Disease of the Kidneys; of the altered character of the urine in this disease, and also at the crisis of acute diseases and during the course of certain bilious affections. By Dr. MARTIN SOLON, Physician of the Hospital Beaujon, &c. Paris, 1838.

THE principal object of this work is to advance our knowledge of the affection commonly known as "Bright's Disease of the Kidneys," but which our author calls "albuminurie," as being expressive of its principle and pathognomic character, viz: the presence of a large quantity of albumen in the urine. That the urine of certain dropsical patients contains albumen is a fact which had been known long before the appearance of Dr. Bright's essays. In particular, Cruickshank and Blackall divided dropsies into two great classes, according as they were or were not accompanied by albuminous urine. But it was reserved for Dr. Bright, of London, to establish the fact, that the kidney frequently becomes the seat of a peculiar morbid alteration, from whence results the diseased secretion of the organ, together with a certain train of morbid phenomena, of which a particular form of dropsical effusion is the principal. Since the appearance of Dr. Bright's work in 1827, various essays upon the same subject, and confirmatory of his positions, have been published by some of the most eminent physicians both of England and France, particularly Christison, Gregory, and Rayer. The disease in question is said to be of frequent occurrence in England, and we have no doubt that it will be found to be common in this country also. Nearly half the cases of dropsy admitted into the Pennsylvania Hospital, in this city, during the months of July, August, September, and October, 1838, were characterized by albuminous urine in a high degree. Our author's history of "albuminurie" is founded upon the reports of 28 cases of the disease, all of which are given in detail. The most important questions appertaining to this affection are fully and clearly discussed, and great caution and diffidence displayed in arriving at positive conclusions. Appended to the essay is an inquiry into the condition of the urine under various circumstances where the kidney is not the seat of Bright's disease, and especially at the crisis of acute diseases. Having premised this much, we shall proceed to a succinct analysis of the contents of the work.

The urine of persons in health contains no albumen. In upwards of five or six hundred trials, made by our author, of the urine of persons either recently restored to health, or habitually healthy, no traces of it were discovered, except for a short time in two of them, where it was most probably accidental. Heat and nitric acid do not render healthy urine turbid, but on the contrary clarify it when it is mixed with mucus. Both these agents, however, cause a coagulum in urine, which contains albumen even in very minute proportions, and are consequently the tests especially relied upon for the purpose of determining its presence. Of the two, the action of

heat is most to be depended on, as it occasions no change in the essential elements of healthy urine. In making use of it, however, we must be particularly careful that the urine is acid; if it is not so, it may easily be rendered so by a few drops of acetic acid.

Besides the twenty-eight cases of Bright's disease, our author reports four cases of inflammation or hæmorrhage of the kidneys. Of the twenty-eight above mentioned, twelve died. All these cases are given in detail, commencing with those which recovered. These are divided into several series, the first of which includes six cases of acute hyperemia of the kidneys, which is regarded by Dr. S. as the first stage of the disease. The second includes those more advanced, whilst the third contains the history of a single case in which the disease was supposed to have arrived at its third stage:—Then follow the fatal cases, accompanied in nearly every instance by an account of the post-mortem appearances. We shall not follow our author through these details, but proceed to the general results in connection with the most important questions which he discusses.

"We observe," says our author, "in reading the cases just detailed, that there exists, in the affection called *granular disease of Bright*, constant and promiment symptoms, together with anatomical lesions which are constant as regards their seat, but of various appearance. The symptoms are, albuminous urine, and dropsy in different degrees; the lesions, are a morbid alteration of the kidney, which from simple hyperemia—gradually passes to a peculiar state of yellow degeneration, &c." p. 179.

These lesions and symptoms, as is afterwards shown, constitute one and the same disease, which he defines "a special morbid condition of the kidneys, occasioning the presence of albumen in the urine, and the development of consecutive dropsies."

Dr. M. objects to the term *granular* as used to designate it, since granulations of the kidney are rarely met with in those who die. He likewise objects to the term *albuminous nephritis* adopted by Rayer, because it cuts short a question which is not completely settled, viz., the inflammatory nature of the disease. Besides, as there are very striking points of difference between it and nephritis properly so called, he thinks that the adoption of the latter term may prevent some from recognising the disease—"Thus," he says, "we expressed to a distinguished practitioner our fear that a certain patient was affected with Bright's disease. This, the practitioner in question, acquainted with the term employed by Rayer, at once denied, on the ground that the patient presented no symptoms of nephritis." p. 181.

The adoption of this term too, he thinks, might give rise to the employment of antiphlogistic remedies, which are suited only, and that when moderately employed, to the commencement of the disease, and not at all to its more advanced stages. It may be objected to the term *albuminurie* employed by our author, that the symptom to which it refers occurs in other diseases, to which he replies, that where albuminous urine is found in nephritis or other acute affections, it is very far from presenting the same characters which it does in Bright's disease. In the latter, albumen is almost the only principle contained in the urine, whereas in the former it exists only in small quantity and without excluding the other elements of the fluid. In the latter case too, albuminous urine is only of transient occurrence, and from this circumstance is readily distinguishable from the *permanent albuminurie*, which belongs to Bright's disease. Whatever may

be said, however, in favor of this term, we cannot see any reasonable objection to continuing for the present, the use of the term *Bright's disease*, or *Bright's disease of the Kidneys*, which has been very generally employed, not only in England and in this country, but we believe, also in France. If at any future day, when the nature of the disease shall be better understood, its affinity or identity with other pathological lesions shall be shown, the adoption of a term to indicate such affinity or identity would be highly proper, in order to preserve a uniform nomenclature.

Post-mortem Appearances.—Dr. S. found the kidney diseased in all but two cases, where probably the presence of albumen in the urine was owing to a derangement of nervous influence in one, and to the presence of cysts in the kidney in the other. At any rate, they cannot invalidate the testimony of the mass of cases which prove that a certain alteration of the kidney causes a change in the character of its secretion, and deranges the economy.

The morbid changes observed are classed under five different heads, which, however, are reducible to three principle ones, viz., hyperemia, yellow degeneration, other degenerations and accidental productions. In the first, the kidneys may be merely found engorged with blood, but more commonly are red, hypertrophied, heavier and larger than natural, the cortical substance being the especial seat of the hypertrophy. In the second variety, or that of yellow degeneration, the kidney is almost always enlarged; the hypertrophy, when it exists, depending upon a development of the cortical substance. Its external surface is of a very peculiar colour which may be compared to that of the pancreas. Internally, it presents the same colour, especially in the cortical substance, but as the disease advances, the tubular portion is also involved and in some instances cannot be distinguished from the other except by its rounded summit from which the urine may be made to flow. In the third variety, at the same time that the kidney is the seat of the yellow degeneration, it assumes also a granulated aspect, a form, however, which our author has rarely met with, though frequently noticed by Dr. Bright. The kidney also may become atrophied, whilst various accidental productions, as cysts, or tubercles, may be developed in its substance.

Causes.—Although adults are chiefly subject to the disease, children are not altogether exempt—contrary to the assertion of most authors, that men are more subject to it than women, the latter were found more numerous than the former amongst the cases recorded by our author. He thinks it possible that a moist and cold climate may favour its production, and accounts in this way for the apparently greater prevalence of the disease in England than in France. In the latter country too, it is more common in the north than the south. In further support of this view he urges the fact that many of his cases had been exposed to the influence of cold and moisture. I know of no data by which to determine the comparative frequency of the disease in this country, or even any one part of it. In the Pennsylvania Hospital, the writer examined a few months since, in conjunction with Dr. Meigs the resident, the urine of all the patients in the men's medical wards, and of the whole number which was about twenty, found but three in whom it was coagulated under the influence of heat and nitric acid—two of these were undoubted cases of Bright's disease, which was probably present in the incipient stage in the third, in whom there was organic affection of the heart. In a similar trial made upon a much larger number of patients in

the wards of Gay's Hospital by Dr. Bright, the number of patients with decidedly albuminous urine was found to be about one in six, a rather greater proportion than that found in the Pennsylvania Hospital. No positive inference can of course be drawn from the above comparison as regards the comparative frequency of the disease in this country and in England, but it will serve to show that it is far from being a rare disease amongst us, and consequently deserving of more of our attention than it has hitherto received.

Of the influence of diet our author is able to say but little, but he thinks that the habitual use of alcoholic drinks might oftentimes be regarded as the principal cause of the disease. Disease of the heart may also be looked upon as a predisposing cause, but not so phthisis, secondary syphilis, or mercury. In particular, our author is satisfied that gravel or urinary calculi have no influence in the production of this affection, whilst, on the contrary, they very strongly tend to the development of nephritis.

Symptoms.—The principal symptoms, as already mentioned, are albuminous urine and serous or cellular dropsy. Amongst the precursory symptoms even, there is none more important than the presence of albumen in the urine, which may for a time exist alone, without any other apparent disorder, and should induce us to fear the establishment of Bright's disease. In about one-third of the cases collected by our author, there was pain in the lumbar region, in some of whom fresh pain was excited by percussion on that part, but in all the others this mode of investigation occasioned no painful sensation. In acute *nephritis*, on the contrary, percussion is almost always insupportable.

The emission of urine was painful in only one or two cases, and that for a short time. Besides the presence of albumen, the urine presents several other modifications; it is generally less dense than healthy urine; its odour too is less marked, both when recent and after it has stood some time in open vessels; its colour varies, but most commonly is very pale and slightly turbid. When this last character is found united with infiltration of the limbs, it is of itself almost sufficient, says our author, to enable us to say that the urine is albuminous. In every case of Bright's disease, which has come under my notice, the urine has presented the peculiar characteristic aspect above alluded to. Urea exists in less proportion than natural, and, when the yellow degeneration is complete, disappears almost entirely, whilst the proportion of albumen becomes as great as possible. In the majority of cases the heart was natural, and not disturbed in its function; except, perhaps, in one case where there was vomiting. No decided sympathetic disturbance of the digestive system was observed, and diarrhœa was very rare. Habitual headach, followed ultimately by a comatose condition, have been considered as common symptoms in Bright's disease, but our author did not observe them at all in the sixteen cases which did not terminate fatally, and in only two of the twelve that died.

One of the most remarkable circumstances about the dropsy accompanying this disease is, that cellular infiltration always precedes serous effusion. This infiltration generally commences in the lower limbs, and the part which is the seat of it offers considerable resistance to pressure. They rarely, says Dr. S., acquire the size which is sometimes observed where the infiltration is owing to disease of the heart. My own limited observation does not accord with this assertion. In two cases which occurred last summer at the Pennsylvania Hospital, the anasarca was very great, and in

one of them it was enormous, so that the skin in every part seemed to be distended almost to its utmost limits. The dropsy is usually limited to the cellular tissue, but sometimes it extends to the serous cavities. Thus in eighteen of the twenty-eight cases under consideration, the anasarca was simple, whilst in the remaining ten it was complicated with various serous effusions; of these latter, ascites is the most common, and differs from that following disease of the liver, &c., only in the less degree of distension of the abdomen.

According to Dr. S., the disease presents itself both under an acute and chronic form. When acute, it is very rapid in its course, and terminates favourably if the patient is not carried off by some other disease. In others its course is slower, the disease being as it were latent, and giving rise to no other symptoms but albuminous urine, the existence of which is only discovered accidentally; at a later period, infiltration of the limbs comes on; here a part of the substance of the kidney is already altered in texture, but the greater part is healthy; the urine contains only a small portion of albumen, and preserves most commonly its natural colour; urea and salts are still found in it in considerable quantities. This condition may remain stationary for some time, or may terminate favourably. The disease progressing, however, by the more extensive alteration of the kidney; the urine becomes colourless and inodorous, gives an abundant albuminous coagulum, and is only of the specific gravity of 1.004 or 1.008. Sometimes the succession of symptoms does not take place as above stated, but the disease is already far advanced before the patients are aware of its existence.

Diagnosis.—Whenever, in examining the urine of a dropsical patient, we find an abundant coagulum constantly result from the application of heat and nitric acid, we may affirm that the kidneys are probably the seat of Bright's disease. Some exceptions, however, occur, though rarely, which may be distinguished, says Dr. S., by the following symptoms:—"The urine is habitually of a natural colour; it has preserved in part its odour, and lost but little of its constituent principles; the amount of albumen contained in it is slight: there exists some other cause, as disease of the heart or liver for example, which accounts for the dropsy, &c., &c. When, on the contrary, the urine has lost its natural density and colour, when it precipitates abundantly by nitric acid, or becomes turbid by the application of heat, there is no longer any possible doubt; the dropsy depends upon disease of the kidney, and not upon any other cause. Facts prove this most conclusively." pp. 241, 242.

As regards the distinction between Bright's disease and nephritis, our author observes, "that Mr. Rayer thought he was establishing an important difference between these affections, in giving to Bright's disease the name of albuminous nephritis. We do not assert that albumen exists in the urine of all patients affected with nephritis;" * * * * "but it seems probable that it is so in most cases, for we can affirm that it presented this character in the four patients attacked with acute or chronic nephritis, the only ones which have come under our observation for several years." pp. 246, 247.

These facts are important, and should lead to further investigation. The course of the disease, however, and the absence of œdema will readily distinguish nephritis from Bright's disease.

Prognosis.—It will be recollected that of the twenty-eight cases reported

by our author, sixteen recovered; from whence it appears that the result is not always so unfavourable as has been supposed by some.

Having described the character of the disease, our author goes on to consider certain questions belonging to its pathology. As regards the nature of the pathological alteration of the kidneys he says, "that what we observe most frequently at the commencement of the disease would seem to indicate the development of a peculiar irritation of the kidneys, under the influence of personal predisposition and the afflux of blood." This *hyperemia*, commencing in the cortical, and extending to the tubular substance, finally causes a modification in the nutrition of the organ, from whence arise the various forms of degeneration which belong to the disease. In two of the fatal cases, where death was occasioned by intercurrent affections, the kidneys presented this hyperemic condition without other change. The six cases of a more or less acute character, which terminated favourably, are referred to the same category. Without entering into a critical examination of these cases, the interpretation of which certainly admits of some doubt, we would merely observe that it seems to us unreasonable to refer to an irritation, the first stage of a disease which, in a majority of cases, does not present any of the characters which belong to such a state. Thus in the majority of cases, according to Dr. S. himself, there is no pain in the lumbar region, either spontaneously or by percussion. Even when pains did exist, they were not acute, and disappeared quickly when the disease became more severe; a circumstance very improbable if its progress depended upon the increase of an irritation. That the disease is very different from common inflammation our author himself admits, for he says, p. 251, that "these affections have nothing else in common except the fact of their being seated in the same organ." Why refer them both then to irritation, when in one the evidence of its existence is not to be found in a majority of cases? Is it not as easy, and much more in accordance with the facts, to suppose an alteration of nutrition independent of irritation, or of which the latter may only be an accidental and occasional accompaniment?

The next question which our author discusses is, whether the albuminous urine in Bright's disease, is dependent upon the morbid alterations of the kidney? A few cases are recorded in which very analogous symptoms have been observed, notwithstanding no such alteration of the kidney was found; and during the course of some acute diseases it is certain that the urine is sometimes albuminous for several days. These facts would seem to show that the kidneys are not necessarily affected in every case of Bright's disease. In the instances above alluded to, however, the urine does not present all the physical and chemical characters which it does in Bright's disease, nor does it contain albumen permanently, or in large proportion. Besides, not a single well characterised case, according to our author, has been adduced, in which the peculiar alteration in question of the kidney, has existed without albuminous urine. We agree with him then, in the justice of the conclusion, that the latter is dependent upon the former.

Omitting the discussion of several other questions, we shall proceed at once to give our author's view of the treatment. He says:

"Our results, based upon our own observations and those of others, show that the resources of nature alone are insufficient to overcome the

disease, for it is owing oftentimes to its having been a long time left to itself, that it becomes incurable.

"Therapeutics supplies us with some resources with which to combat it. We may divide into two series the means which appear to us the most proper to dissipate the two morbid conditions which we have observed, in one of which there are the evidences of renal hyperemia, sub-inflammation or latent inflammation, and in the other, of altered nutrition, organic degeneration and the development of accidental productions. In the first, the medication will consist in the employment of sanguine depletion or antiphlogistics, together with the use of diuretics and revulsives; and in the second, in the continuation of diuretics and revulsives of a more active character, but more especially in the prescription of various modifiers of the nutrition, so well designated by the name of alterants, &c." p. 276.

Of these remedies there are some which are suited to both forms, and these are first spoken of.

In the early stages bleeding is very important, and often, according to our author, exerts as powerful an influence in arresting the progress of the disease as in overcoming an inflammation. At a later period, also, it is somewhat serviceable, but in the advanced stage, is rarely productive of any marked advantage.

Diuretics.—After remarking that in a healthy state of the kidneys, we may employ indiscriminately almost any diuretic, he observes that, "in Bright's disease where our object is not merely to procure diuresis, but to modify the organic condition itself, the use of this species of medication demands much greater precaution. We shall not obtain from diuretics, which are in this case direct modifiers of the diseased organs, the desired advantages, unless we have reference to the diseased condition of these organs, whether they are the seat of simple hyperemia, or of positive change of structure. In the first, which constitutes the acute variety or stage of the disease, mild diuretics will undoubtedly be preferable; in the second, where the disease has passed into the chronic stage or form, the stimulant or rather *alterant* diuretics may accomplish the desired indication." p. 279.

Thus in the stage of hyperemia, he recommends acidulated drinks with nitre, gum water, flaxseed tea, cream of tartar water, &c." In cases where the kidneys are less excitable, digitalis in powder, and especially in infusion, also the infusion of horse-radish may be employed. These remedies, however, so useful in the early stages, exert but little influence when the disease is more advanced. Here we must have recourse to stimulant and tonic diuretics, and especially the squills, either alone or combined with calomel, opium, &c., according to circumstances. The oxymel and the bitter diuretic wine of La Charité, in which latter, it is combined with several tonics, are preferred by our author, who thinks that these preparations have been decidedly useful in cases where the disease was passing into the second stage. Various external revulsives should be employed, and especially the tartar emetic plaster.

Our author speaks very favourably of the action of purgatives, which may produce a useful revulsion at the same time that they unload the cellular tissue and serous cavities. He is not afraid of the inordinate irritation of the intestines so much dreaded by some, and which he thinks is occasioned in the hands of the English practitioners by the common admixture of calomel with their purgative medicines. He prefers the hydragogue

cathartics, the least irritating of which, however, must be chosen and at the same time cautiously managed. The oil of the Euphorbia lathyris, and the juice of the root of the European elder are particularly recommended. When the above remedies fail, *alterants* must be resorted to. Of these mercury was chosen by our author. Instead of calomel "which so often produces salivation" he made use of mercurial ointment in pills, which he thought less likely to cause the same effect; a drachm of the ointment was generally combined with two scruples of medicinal soap, sometimes a scruple of powdered squills, or of conium, and three to six grains of extract of opium; the mass was then divided into twenty-four pills, of which from one to three or more were taken in the twenty-four hours. In three out of eight cases in which they were tried, the symptoms entirely disappeared under their use. In two of the five which were not benefitted, the disease appeared to be far advanced, and in two others the great irritability of the mucous membrane of the intestines prevented the continuance of the remedy. Having remarked, that the above cases were too few in number to enable us to draw any positive conclusion, he observes:

"However, it is observable, that it was only when they produced salivation or diarrhœa, that these pills were not efficacious, * * * ; that their revulsive action was not advantageous, and that on the contrary, they were really as useful, only where they acted as alterants."

Having laid before the reader a general view of the treatment employed, we shall merely allude to one or two remaining observations upon minor points of practice. When speaking of the necessity of employing remedies for the purpose of relieving the patient from the inconvenient accumulation of water in the serous cavities in cases where the renal disease is far advanced, Dr. S. observes, that this condition of the kidneys prevents our deriving much advantage from the use of diuretics, since the secretion of urine rarely becomes so abundant as to occasion the disappearance of thoracic and abdominal effusions. It would not be desirable indeed, he thinks, that it should be abundant, as it would necessarily carry off a large proportion of albumen. He prefers employing for the relief of the symptoms in question, hydragogue cathartics, which may, perhaps, at the same time produce a favourable change in the kidneys themselves, by means of their revulsion upon the intestinal canal. As the blood contains a larger amount of water than natural, as well as less albumen, he recommends a full diet, and to endeavour to give to the blood its proper stimulating and plastic qualities, by means of ferruginous and bitter preparations. The second part of the work before us, is occupied with the consideration of the modifications of the urine at the critical period of acute diseases. In the course of his experiments upon the urine in Bright's disease, it became an object to examine whether the fluid was not also coagulable under other circumstances. The result was, that this property was found to exist at the period of resolution of many acute diseases. This fact, he thinks, as undoubtedly it is, of great importance in the study of the crisis of these affections. The urine under these circumstances presents itself to our notice nnder two different conditions.

1st. Where it coagulates or becomes turbid by the action of heat or other agents, which is called "COAGULABLE *urine*."

2d. Where the same effect is produced by several reagents, especially

the acids, but where the matter precipitated differs essentially from the first, since it is dissolved by heat. This urine is called "*precipitable.*"

In seventy-eight cases of acute disease, consisting of typhoid fever, pleuro-pneumonia, &c., the urine was found coagulable by heat or precipitated by nitric acid in sixty-two. The facts connected with most of these cases are particularized, and many of them reported in detail. They seem fully to establish the following conclusions drawn from them by our author, viz:

"That the urine becomes coagulable by heat, or precipitable by nitric acid, during the course of acute diseases; that sometimes the phenomenon shows itself at indeterminate periods, but is then but slightly marked; that in some cases it does not occur, notwithstanding that the disease terminates favourably; but that most commonly it shows itself towards the crisis of acute affections, and indicates their favourable termination." pp. 397, 398.

Of the sixty-two cases above mentioned, the urine was found coagulable by heat in only twelve cases, whilst it was precipitable by nitric acid in the remaining fifty. The fact of its coagulation by heat is sufficient proof of the presence of albumen in the first series, but in these cases, nevertheless, the urine differed from that found in Bright's disease, in containing a larger proportion of saline or other principles. As regards the nature of the precipitate formed by nitric acid, when the action of heat did not cause a coagulum, our author, after a careful investigation of the subject, comes to the conclusion:—

"That *critical precipitable urine* owes its properties to an excess of urea, uric acid and urate of ammonia." p. 424.

The third part of the work contains the exposition of some facts relative to the existence of the principles of the bile under certain circumstances in several of the animal fluids, especially the blood and urine. The presence of bile was indicated by the green tint produced by the addition of a few drops of nitric acid to the fluid containing it. Besides this, other changes of colour are sometimes produced, occurring in the form of zones. From the facts brought forward, it would seem that the diffusion of the principles of the bile in several of the animal fluids, particularly the blood and urine, takes place at least under the three following circumstances:

1st. As a consequence of the production of tumours, &c., which impede the passage of the bile into the intestines.

2d. As a consequence of inflammation of the liver or its appendages, jaundice, &c.

3d. In connection with the secretory disorder designated by the name of "*bilious state*" by the older pathologists.

These results are highly interesting, and, if confirmed, will at least afford an additional means of determining the existence of disorder of the liver in cases where it would otherwise be very doubtful. T. S.

BIBLIOGRAPHICAL NOTICES.

ARTICLE XIV. *The Elements of Materia Medica; Comprehending the Natural History, Preparation, Properties, Composition, Effects, and Uses of Medicines.* Part I. *Containing the General Action and Classification of Medicines, and the Mineral Materia Medica.* By JONATHAN PEREIRA, F. R. S. and L. S. &c. London: 1839.

THE reputation of Mr. Pereira as a lecturer on Materia Medica and thorough Pharmacologist had raised high expectations with the medical public in relation to the work which it was understood that he was preparing. Nor have these expectations been disappointed by the part which has just made its appearance. We are acquainted with no treatise on Materia Medica, in the English language, so full and at the same time so accurate as that of Mr. Pereira, so far as it has advanced. The volume now published, though confined exclusively to inorganic substances, with some preliminary general observations upon medicines, contains upwards of five-hundred and fifty large and closely printed octavo pages; and the work, if continued upon the same scale, will swell to three times this magnitude. When it is considered that the style of Mr. Pereira is remarkably simple and concise, and that no space is thrown away upon useless and irrelevant speculation, it may be conceived, how abundant is the mass of materials which he has collected. He treats fully of medicines in their relation both to Pharmacy and Therapeutics, giving in detail an account of their origin, preparation, chemical properties and habitudes, sensible qualities, physiological effects, therapeutical applications, and modes of exhibition. The numerous references to authorities, especially under the heads of the effects of medicines upon the system, and their uses in disease, prove at once the accuracy of the author and the great extent of his researches. His work is indeed rather a mine from which teachers and succeeding writers may derive materials, or a repository to which practitioners may occasionally resort for the supply of deficiencies, than a manual for students, who might be embarrassed by its abundance, and at a loss to decide upon the relative value of facts of which they could not retain the whole.

In most of the treatises upon Materia Medica in the English language, there is an evident want of a due balance between the department which treats of the mere physical properties and the preparation of medicines, and that which is concerned with their direct application as therapeutical agents. This arises probably from the great amplitude of the science, which renders it difficult to attain a thorough acquaintance with one of its sections without more or less neglecting another. Thus he who has devoted to chemistry and the natural sciences a degree of attention calculated to make him an eminent pharmaceutist, is apt to be deficient in therapeutical experience; and the skilful practitioner of medicine is not always the one most conversant with the physical properties and preliminary management of the remedies which he employs. Writers partake of the same inequality of attainment; and their works not unfrequently exhibit, in their partial elaborateness, the peculiar bias or partial qualification of their authors. We have not this complaint to make against the work of Mr. Pereira. He appears to have devoted an equal and full attention to the different branches of his subject, and while he exhibits the somewhat rare qualities of a

good chemist and naturalist in his pharmaceutical descriptions, is not less copious in the therapeutical department, although the absence of extended theoretical disquisition in the latter, may give it more of a Doric air than is exactly agreeable to eyes so much accustomed as those of medical readers in general are to the ornaments of a Corinthian fancy.

If we have any fault to find with the treatise before us, it is in relation to the plan of arrangement which has been adopted. Mr. Pereira divides medicines into those furnished by the inorganic or mineral kingdom, and those which are the result of organic or vital action. The former he classifies according to their chemical composition, the latter, according to the position of the plant or animal from which they are derived in the arrangements of the naturalists. This would be the truest system of classification in a work of pure science, without any especial practical bearing: but in a treatise intended for the guidance of the medical practitioner or the instruction of the medical student, the relation which ought to serve as the basis of an arrangement is obviously that which is of necessity most frequently present to the mind of the reader, and is best calculated to assist him in the future application of his knowledge. Such a relation, in the present case, is that which medicines bear to the human system. A classification founded upon their physiological effects is therefore most appropriate in a treatise upon medicines considered in a therapeutical point of view, nor do we altogether agree with Mr. Pereira, who, while he admits the superiority of such an arrangement, could it be effected, deems our present knowledge of the effects of medicines upon the system too uncertain to allow of a successful classification upon this foundation. It is undoubtedly true that a precise knowledge of the physiological action of many medicines is yet wanting; nor is it by any means certain that, were we in possession of such knowledge, a faultless classification would be the result; for in this, as in most other departments, nature has so distributed the properties of bodies, that, while the greater number are found capable of being associated in well defined categories, there are always some which partake of the characters of different classes, and cannot with propriety be arranged in any one exclusively. That an exact physiological arrangement of medicines, therefore, cannot be effected, is no reason that this plan should be entirely abandoned; as the defect is one which it shares with all other systems, while none is equally efficient, in the present cases, for practical good. But Mr. Pereira, while he adopts the chemical and natural history basis of arrangement, when treating of individual medicines, has introduced among his preliminary observations a physiological system of classification, with general remarks upon each class, which will, in a considerable degree, obviate the disadvantage to the student of the plan which he has pursued in the body of the work.

In a brief notice like the present, it would be impossible to do justice to Mr. Pereira's treatise by extracting any portion of its contents, or giving an account of its details. The general qualities which recommend it are copiousness, fidelity, accuracy, and a singular neatness and perspicuity of style. Should it be completed in the manner in which it has been commenced, it will fill up a gap in English medical literature, of which those who are conversant with the pharmacy and materia medica of the continent have long been sensible. G. B. W.

ARTICLE XV. *Prospetto Statistico-Clinico-Psichiatrico con Classificazione dei Recoverati nel Regio Manicomio di Torino.* Del Dottore CIPRIANO BERTOLINI, Medico Primario del pio Instituto. 8vo. pp. 205, Turin, 1832.

Saggio di Statistica del Regio Manicomio di Torino, dal 1*o di gennaio* 1831, *al* 31 *Decembre*, 1836. Del Dottore GIO. STEFANO BONACOSSA, Medico Assistente di detto Manicomio. 8vo. pp. 127, Turin, 1837.

THESE two works afford a very complete and interesting statistical view of the cases of insanity treated in the Royal Insane Hospital of Turin, during the six

years and a half ending December 31st, 1836; exhibiting the number of the patients of each sex received, discharged, and deceased during each month of that period; the provinces from which they came, with the population of each province; the respective ages of the patients; the number of married and single; the species of derangement with which the patients of the different sexes, ages and provinces were affected; the age and sex of the discharged and dead; the causes of the several species of insanity in each sex, presented under several points of view; the duration of each case to the period of cure of decease; the immediate cause of death in those cases which terminated fatally, and meteorological observations for the period to which these statistics refer.

Besides the foregoing strictly statistical details, each of the works contains a variety of interesting remarks in relation to the classification, pathology, and treatment of the several forms of insanity; accompanied, in the first, by the history of a number of cases with the autopsy of those which terminated in the death of the patient; and, in the second, with a very full account of the Royal Insane Institution of Turin, and of its government and internal economy.

It must be evident that works of the character of those before us, scarcely admit of review or of a satisfactory analysis. The more important pathological and therapeutical remarks they embrace are so intimately connected with the accompanying statistical details, as to be comparatively of little interest when examined separately from them; while the chief value of the latter consists in their minuteness.

We believe, however, that we shall be enabled to select, from the tables contained in the essay of Dr. Bonacossa, some general facts interesting to such of our readers as have turned their attention especially to the diseases of the mind. Previously, however, to attempting this, it will be proper to present the definitions given by that gentleman of the four species of mental derangement, which he includes under the denomination Insanity; namely, *mania*, *dementia*, *monomania*, and *lipemania*. Mania he defines an exaggeration, an increased energy of all or of the greater part of the intellectual faculties, and especially of the memory, associated constantly with an excitement of the locomotive apparatus. In this disease, a multitude of ideas, on indifferent subjects, are so rapidly and with so much activity reproduced, that their regular and permanent association is rendered impossible.

By dementia, he would express a derangement of the intellectual faculty, without the expression of any particular passion; there being no longer a continued and regular connection of ideas, whether from defect of memory or from a default of the faculty on which depends the power to unite, and compare correctly those ideas which recur to the mind.

By monomania, he understands an excessive activity of some instinctive faculty united to a series of corresponding ideas.

By lipemania, (tristimania of Rush,) he denotes a moral condition in which sad or mournful ideas predominate, with self discontent, and a character extremely timid, hesitating, diffident, and superstitious.

The whole number of patients admitted into the Royal Insane Hospital of Turin, from the 1st of January, 1831, to the 31st of December, 1836, was 1066; namely, males 650, females 416; of these 538, namely, 400 males and 138 females, were unmarried, and 528, 250 males and 278 females, were married.

Of the 1066 patients, 966 (577 males and 389 females) were affected with the different forms of insanity; namely, 256 (167 males and 89 females) with *mania;* 206 (133 males and 73 females) with *dementia;* 238 (127 males and 111 females) with *monomania;* 266 (150 males and 116 females) with *lipemania;* while 56 patients (41 males and 15 females) were affected with *idiocy;* and 44 (32 males and 12 females) were affected with *acute delirium.*

The greatest number of the patients were admitted during the months of July, August and September, namely, 342, or rather more than one-third; the smallest number in January, 60: from the 1st of January to the 1st of April, the number admitted was 204; from the 1st of September to the 1st of December, it was 249.

The ages of the patients were as follows:

Under 5 years,		1—a female.				
Between 5 and 20 years,		49—	31	males and	18	females.
" 20 and 30	"	272—176	"		96	"
" 30 and 40	"	342—213	"		129	"
" 40 and 50	"	222—119	"		103	"
" 50 and 60	"	104— 69	"		35	"
" 60 and 70	"	41— 27	"		14	"
" 70 and 80	"	7— 1	"		6	"
Ages not indicated		28— 14	"		14	"

The largest number of patients were between 35 and 40 years, namely, 183, (114 males, 69 females;) the next largest number were between 30 and 35 years, viz: 159, (99 males, 60 females;) the next, between 25 and 30, viz: 151, (95 males, 56 females;) the next, between 40 and 45, viz: 127, (69 males, 58 females;) the next, between 20 and 25, viz: 121, (81 males, 40 females;) the next, between 45 and 50, viz: 95, (50 males and 45 females.)

From the table showing the previous occupations and rank of the patients, no very definite conclusions can be derived, unless we possessed a knowledge of the proportion which each occupation and rank to which the patients belonged bears to the entire population.

Selecting the largest numbers, as they appear in the table, we find of peasants and persons from the country there were 428, (233 males and 195 females;) of the military 69; of female servants 58; persons following a variety of occupations 55, (18 males, 37 females;) females engaged in domestic duties 44; shoemakers 37, (20 males, 17 females;) priests 20; persons of property 19; carpenters 16; persons in office 14; masons 14; merchants 13; students 11; tailors 11; surgeons 10; coach-drivers 9.

Of 1045 of the cases admitted, in 646 (393 males, 253 females) the disease is referred to physical causes, and 299 (164 males, 135 females) to moral causes.

Of the physical causes, 133 cases are referred to hereditary predisposition, (80 males, 53 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	26	15	6	21	6	6
Females,	16	4	16	13	4	0
Total,	42	19	22	34	10	6

85 are referred to *diseases and injuries of the head and brain*, (57 males, 28 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	14	20	7	11	2	3
Females,	4	6	8	5	3	2
Total,	18	26	15	16	5	5

76 to the *abuse of wine and ardent spirits*, (73 males, 3 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	26	13	12	13	1	8
Females,	1	0	1	1	0	0
Total,	27	13	13	14	1	8

35 to *epilepsy*, (30 males, 5 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.
Males,	16	3	4	3	4
Females,	1	1	1	2	0
Total,	17	4	5	5	4

28 to the *abuse of mercury*, (22 males, 6 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.
Males,	2	9	3	8
Females,	1	1	3	1
Total,	3	10	6	9

27 to *disease of the abdominal viscera*, (12 males, 15 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Delirium.
Males,	4	1	0	6	1
Females,	2	2	2	9	0
Total,	6	3	2	15	1

19 to *insolation*, (14 males, 5 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Delirium.
Males,	5	2	6	0	1
Females,	1	2	0	1	1
Total,	6	4	6	1	2

18 to *syphilis*, (11 males, 7 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.
Males,	1	8	1	1
Females,	3	1	3	0
Total,	4	9	4	1

15 to the *suppression of various abnormal discharges*, (13 males, 2 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	2	5	4	2	0	0
Females,	0	0	0	0	1	1
Total,	2	5	4	2	1	1

14 to the *abuse of venery and onanism;* all males: Namely,

Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.
3	2	2	6	1

12 to *diseases of the chest*, (5 males, 7 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	2	0	1	1	0	1
Females,	0	2	1	0	2	2
Total,	2	2	2	1	2	3

12 to *excessive fatigue*, (10 males, 2 females:) Namely,

	Mania.	Lipemania.	Idiocy.	Delirium.
Males,	2	5	2	1
Females,	0	2	0	0
Total,	2	7	2	1

54 to *disorders of menstruation*, *diseases of the uterus*, and the *accidents of pregnancy* and *parturition*, &c.: Namely,

Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
14	2	16	17	1	4

Of the moral causes, 124 cases are referred to the disturbance of mind resulting from *poverty and distress*, (54 males, 70 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	11	9	9	23	2	0
Females,	14	8	18	28	1	1
Total,	25	17	27	51	3	1

35 to *love*, (16 males, 19 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	4	0	4	7	1	0
Females,	3	7	5	2	1	1
Total,	7	7	9	9	2	1

22 to *domestic troubles*, (17 males, 5 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.
Males,	2	2	3	10
Females,	0	1	1	3
Total,	2	3	4	13

21 to *religion*, (12 males, 9 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.	Delirium.
Males,	2	2	5	2	1	0
Females,	1	0	7	0	0	1
Total,	3	2	12	2	1	1

19 to *jealousy*, (9 males, 10 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Delirium.
Males,	1	3	2	3	0
Females,	1	4	0	4	1
Total,	2	7	2	7	1

18 to *reverses of fortune*, *disgrace*, (15 males, 3 females:) Namely,

	Mania.	Dementia.	Monomania.	Lipemania.	Idiocy.
Males,	1	0	6	7	1
Females,	0	1	1	1	0
Total,	1	1	7	8	1

17 to *terror* and *fright*, (8 males, 9 females:) Namely,

	Dementia.	Monomania.	Lipemania.
Males,	0	4	4
Females,	1	4	4
Total,	1	8	8

7 to *protracted study*—all males: Namely,

Mania.	Dementia.	Monomania.	Lipemania.
1	2	2	2

Of the 1066 cases admitted in the institution during the six years and a half to which the present statistics refer, there were within that time 466 (288 males, 178 females) discharged well, and 328 (188 males, 140 females) died.

Of those *discharged well*,

25, namely, 17 males and 8 females, were from 5 to 20 years old.
113, " 70 " 43 " 20 to 30 "

168, namely 101 males and 67 females were from 30 to 40 years of age.
111, " 66 " 45 " 40 to 50 "
24, " 16 " 8 " 50 to 60 "
23, " 17 " 6 " 60 to 70 "
3, " 2 " 1 " 70 to 80 "
1, a male over 80 years of age.

Of those who *died*,
9, viz: 5 males and 4 females, were from 5 to 20 years of age.
60, " 34 " 26 " 20 to 30 "
78, " 46 " 32 " 30 to 40 "
96, " 50 " 46 " 40 to 50 "
47, " 32 " 15 " 50 to 60 "
30, " 17 " 13 " 60 to 70 "
7, " 4 " 3 " 70 to 80 "
1, a female was over 80 years of age.

With respect to the nature of the disease which was the immediate cause of death in these cases, we are informed that

1 in 52 died from chronic spinitis.
1 in 8 " meningo-arachnitis.
1 in 130 " acute encephalitis.
1 in 10 " encephalo-meningo-arachnitis.
1 in 86 " chronic phlebitis.
1 in 37 " cardio-arteritis.
1 in 18 " consumption, or pneumonia with suppuration.
1 in 18 " chronic pleuro-pneumonia.
1 in 86 " acute pleuro-pneumonia.
1 in 37 " chronic gastro-hepatitis.
1 in 160 " acute hepatitis.
1 in 13 " chronic gastro-enteritis.
1 in 86 " chronic cystitis.
1 in 260 " acute metritis.
1 in 130 " chronic metritis.
1 in 32 " dysentery.
1 in 13 " diarrhœa.
1 in 52 " ascites.
1 in 18 " hydrothorax and hydropericardia.
1 in 37 " hydrothorax.
1 in 10 " hydrocephalus with meningitis.
1 in 65 " scurvy.
1 in 65 " tabes mensenterica.
1 in 21 " serous apoplexy.
1 in 18 " sanguineous apoplexy.
1 in 50 " external surgical diseases. D. F. C.

ARTICLE XVI.—*On the Nature and Treatment of the Diseases of the Heart; with some new Views on the Physiology of the Circulation.* By JAMES WARDROP, M. D. &c. Part I. 8vo. pp. 100. London: 1837.

THE first part of Dr. Wardrop's treatise, which is all of it that we have as yet received, is devoted to preliminary observations on the structure and functions of the heart, with which are interspersed some new physiological views on the circulation.

In his investigations of the causes and treatment of the diseases of the heart, Dr. W.'s attention was directed to certain symptoms with which various affections of that organ are accompanied, and, in seeking an explanation of them he was led to reflect on several natural phenomena connected with the circulation

of the blood in the heart, and with the function of respiration, but of which he could find no satisfactory explanation; and to some of them even no allusion, in physiological writings.

He was particularly struck with the influence of respiration on the action of the heart, and with the influence of the latter on respiration, as well as with all the modifications of these functions, not only in diseases, but likewise during the acts of weeping—sobbing—crying—laughing—in the giddiness experienced in turning round rapidly—in swinging, and in sea sickness.

"His attention was not less arrested when contemplating the influence, which the almost constant movements of the body exercise both on the respiratory and the circulatory organs. He was led to inquire how the action of the heart and lungs is increased by violent exercise—how persons can acquire by a process of 'training' the power of using their muscles, until their muscular energy is exhausted, without causing breathlessness or a sense of suffocation—in what the art of diving consists—and finally, how diseases of the heart are caused by violent muscular exertions, and by mental excitement.

"Having arrived at the conclusion, that these various phenomena are intimately connected with the great function of the circulation of the blood, further observations convinced the author, that each of these different acts is employed for performing a specific purpose in the economy—some for increasing and others for diminishing the quantity of blood within the thoracic cavity, according as modifications in the quantity of the blood are required, or an adjustment becomes necessary in different organs for the due performance of their respective functions.

"In pursuing these investigations his mind was conducted, step by step, to establish the existence of three important functions—functions connected with the circulation of the blood which had hitherto been overlooked by physiologists.

"*First*—That the muscles besides being the active organs of locomotion, perform the important office of increasing the quantity of arterial as well as of venous blood, within the cavities of the heart.

"*Secondly*—That the lungs regulate the supply of blood to the heart so as to prevent congestion within the heart's cavities, and

"*Thirdly*—That the subcutaneous veins performing the office of a reservoir, prevent congestion of blood within the pulmonary vessels."

The author maintains that although it may be strictly true that the blood flows in a circle, and that the heart, like a syringe, propels the sanguineous fluid throughout the whole system, yet there are other physical conditions necessary for the due performance of that important function—conditions to which we must constantly refer in all our pathological researches. Every part of the body requires a certain quantity of the blood to be sent to it, but it is indispensable, also, that this supply be variously modified in relation to different organs. In some it is requisite the supply be always equal and uniform, whilst, in others, it is necessary that the quantity of the blood can be either diminished or increased. Of the first of these conditions, there is an example in the brain, and of the other, we have an illustration in the stomach, in which viscus, during the process of digestion, the quantity of blood is more or less increased. Another illustration of a temporary change in the quantity of blood in particular organs is afforded in the erectile tissues.

"The length of different arterial trunks—the different angles at which the branches leave the trunks—the varieties in the course or trajet of arteries—the different modes in which they ramify—and the anastamoses of arteries, are," according to Dr. W. "all peculiarities which are contrived to modify the circulation of the blood in particular organs."

The author is of opinion that the muscles, besides being the active organs of motion, become essential auxiliaries in the circulation of the blood, in both arteries and veins, by the pressure which they produce during their contractions on the adjacent vessels. This he denominates the musculo-cardiac function.

Whilst the pressure caused by muscles during their contraction, propels the blood onwards in the contiguous veins, Dr. W. maintains, that the effect of muscular contraction, both on arteries adjacent to, and those embedded in, the

substance of muscles, must be to compress these vessels, and thus to impede the flow of blood through them; hence, he remarks, the contraction of muscles will increase the accumulation of blood within the heart in two ways—by *accelerating* the flow of the *venous* blood to the right heart, and by *impeding* the transit of the *arterial* blood from the left heart.

While it appears not to be requisite that certain organs should be at all times supplied with an equal quantity of blood, there are others wherein any alteration in the supply of blood would be prejudicial, or even fatal, to the great functions of life. Hence, whenever the heart requires an additional quantity of blood, this, according to our author, is accomplished by impeding the flow of the arterial blood through the arteries of those organs only which do not at all times require a uniform supply of the sanguineous fluid.

"In accordance with these positions, we find," he observes, "that the arteries of all organs of the first denomination are so placed that they must inevitably be more or less compressed by the contractions of the adjacent muscles; whilst the arteries of the other class of organs are so situated, that they are protected from all pressure from the movements of the muscles contiguous to them."

Of the first of these conditions we have an example in the arteries of the limbs, and of the second, in the arteries of the brain, heart, stomach and iris.

Arteries accompany the veins where it is intended that *both* the systems of vessels shall be influenced by muscular contractions—while those vessels which are *not* liable to compression from the contraction of muscles are not similarly disposed, either with relation to the muscles, or to each other—thus in the internal viscera, such as in the brain, lungs, and liver, the veins do not accompany the arteries.

The involuntary muscles perform agreeably to the views of Dr. W. an equally important share in modifying the circulation of the blood.

"The vermicular motions of the stomach and intestines during the process of digestion, must doubtless," he remarks, "have a very considerable influence on the circulation of the blood, both in the veins and in the arteries of these organs, and hence, during the movements of the alimentary canal, we observe an increase in the frequency of the pulse."

In regard to the influence which the respiratory organs exercise on the action of the heart, and the share they have in carrying on the great function of the circulation of the blood. By whatever powers, the author remarks, the venous blood reaches the two venæ cavæ, the act of *inspiration* assists in bringing the *venous* blood into the right heart—it also assists the circulation of the blood in the pulmonary arteries; the expansion of the lungs accelerating the ingress of the venous blood into the pulmonary arteries, and also permitting the arterialized blood to flow readily through the pulmonary veins. During *expiration*, the collapse of the lungs and the subsidence of the parietes of the chest and abdomen, aid by their pressure the transmission of the arterial blood from the lungs into the left heart, and also assist in propelling the blood along the large arteries, at the same time impeding the current of blood coming from the right ventricle into the pulmonary artery.

"Inspiration may be therefore considered as accessory to the *venous*, and expiration to the *arterial* circulation, the one aiding the heart like a sucking, and the other like a forcing pump."

"Besides these two important offices of the respiratory apparatus connected with the circulation of the blood, both of which may be considered as altogether depending on changes in the form and capacity of the thoracic cavities, there is a third, and as Dr. W. has endeavored to show, accessory function which is performed by the lungs themselves, the pulmonary vessels serving as a receptaculum or reservoir for receiving any surplus quantity of blood whether venous or arterial which the cavities of the heart cannot admit."

In order to distinguish this function from all the others performed by the respiratory apparatus, Dr. W. denominates it the *pulmo-cardiac function.*

"Whenever," he remarks, "from any cause the systemic blood cannot find a

of the blood in the heart, and with the function of respiration, but of which he could find no satisfactory explanation; and to some of them even no allusion, in physiological writings.

He was particularly struck with the influence of respiration on the action of the heart, and with the influence of the latter on respiration, as well as with all the modifications of these functions, not only in diseases, but likewise during the acts of weeping—sobbing—crying—laughing—in the giddiness experienced in turning round rapidly—in swinging, and in sea sickness.

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In order to distinguish this function from all the others performed by the respiratory apparatus, Dr. W. denominates it the *pulmo-cardiac function.*

"Whenever," he remarks, "from any cause the systemic blood cannot find a

ready exit from the left ventricle, and when, at the same moment, there is no diminution in the supply of venous blood to the right heart an accumulation or congestion of blood must then take place within the cavities of the heart, and therefore, in order to prevent such undue accumulation, the effects of which would be more or less injurious, further means become requisite, besides the expansive power of the parietes of the chest."

"If there be only a slight increase in the quantity of blood within the heart, such additional stimulus by increasing the vigor of the heart's movements, may along with the elastic quality of the fibro-cartilaginous portion of its structure, which is placed at the roots of the large vessels, be alone sufficient to equalize the circulation. But if the increased supply of blood to the heart be so considerable that the surplus quantity cannot be received within its cavities, the lungs are then required to lend their assistance."—"The pulmonary vessels being imbedded in a soft and yielding substance, are susceptible of various degrees of distension, so that they readily give way for the reception of any surplus quantity, whether of venous or of arterial blood, and retain it until it can be received within the heart."

But whilst the pulmo-cardiac function is in the opinion of Dr. W. employed to relieve the heart of any surplus quantity of blood which it cannot receive into its cavities, he ascribes to the subcutaneous veins, which being placed externally to the fascias are not affected by the action of the muscles, the office of relieving the pulmonary vessels of any superabundant blood which they are not capable of receiving without interruption to the great function of respiration.

The chain of reasoning employed by Dr. W. in sustaining the peculiar views in relation to the circulation of which a hasty sketch has been given above, is extremely plausible, if not entirely conclusive—while the illustrations he introduces from various well known physiological and pathological phenomena render these preliminary observations to his proposed treatise on the diseases of the heart and their treatment one of an extremely interesting character.

D. F. C.

ARTICLE XVII.—*Ishgogé in Doctrinam Morborum Chronicorum. Auctore* GER. CONV. BERN. SURINGAR, Medicinæ, Chirurgiæ et artis obstetriæ, Doctore, et medicinæ practicæ in Schola Clinica et in illustri Amstelodamensium Athenæo, Professore. 8vo. 2 vols. pp. 210—250. Amsterdam, 1837.

Introduction to the Study of Chronic Diseases. By G. C. B. SURINGAR, M. D. Professor of the practice of medicine in the Clinical School and Atheneum of Amsterdam.

UNDER the denomination of chronic diseases, the author of these volumes comprises all those affections of which neither acute inflammation nor fever forms a part of the essential or prominent phenomena. Among these diseases are included, as will be perceived, some of the most important to which the human frame is subject, and with the pathology and treatment of which, notwithstanding the very close attention that has been paid to their investigation, more especially of late years, we are still but very imperfectly acquainted.

To furnish to the student a concise manual of the general facts connected with this interesting and important class of maladies appears to have been the leading object of Professor Suringar in the preparation of the volumes before us. Considered in this light, deficient as they are in many particulars, they constitute certainly a very useful work—forming an excellent introduction to the study of those more extensive treatises on the subjects of which they treat, for which we are indebted to the industry and talents of some of the most distinguished members of our profession.

Professor Suringar divides the chronic diseases into two classes; namely, 1, those of organic life; and 2, those of animal life. Each of these classes is subdivided into three sections.

The sections of class I. embrace

1. Those chronic affections attended with lesions of the blood-vessels and of the blood. Chronic congestion and inflammation, hæmorrhage, chlorosis, cyanosis, scurvy, purpura hæmorrhagica, ulcus noma.

2. The chronic affections of the digestive, respiratory, secretory, excretory, and nutritive organs.

3. The chronic affections of the reproductive organs.

The sections of class II. embrace

1. The chronic affections of the apparatus of motion. Gout, rheumatism.

2. The chronic affections of the organs of sensation. Hypochondriasis, hysteria—the neuralgiæ—the lesions of the external senses—the various spasmodic and convulsive affections—atony—paralysis—apoplexy—asphyxia.

3. The affections of the mind, or vesaniæ.

In his brief sketch of the symptoms, diagnosis, causes, and treatment of the several chronic affections embraced in the foregoing classification, the author has, in general, exhibited sufficient clearness and accuracy. He has evidently collated with care the more recent observations in relation to their pathology, and is familiar with the improvements which a more intimate acquaintance with the true character of these diseases, has been the means of introducing in reference to their therapeutics. He has, nevertheless, not unfrequently adopted the statements and opinions of the older writers, that subsequent and more extended observations have shown to be erroneous, or at least, of doubtful authority. To the history of each disease is appended a short list of the best writers, who have treated of it, with the title of their works, which, though incomplete, is not without its value.

There is no part of the work of Professor Suringar which calls for any particular notice, or which would warrant a formal review. The chief merit of an elementary treatise, such as it alone professes to be, consists in its presenting a well defined and correct outline of the subjects of which it treats, leaving to the student, the labour of filling up that outline with the materials subsequently derived from the various sources placed within his reach. This particular merit the volume before us possesses, and we feel a pleasure in recommending it as a useful introduction to the study of those affections to which the author has extended the term chronic. D. F. C.

ARTICLE XVIII. *Annual Report of the Interments in the city and county of New York for the Year* 1838, *with accompanying Remarks.* By HENRY G. DUNNEL, City Inspector. New York, 1839.

THIS little pamphlet of some twenty pages, reflects great credit upon Dr. Dunnel for the ingenuity displayed in exhibiting the annual mortality of a large population in such a manner as to show at a glance many of the most interesting details and results, to obtain which from the ordinary bills of mortality would have been in many cases absolutely impossible, and in others a matter of no little calculation. The tabular form exhibits the number of deaths from each particular disease or source of mortality, with the ages, sex, colour and place of nativity of the deceased. The diseases are classified beginning with "*Diseases of the Brain and Nervous System,*" and proceeding successively through the list. The total mortality reported from the first of January to the last day of December, 1838, is 8053, of which there were of white males 4090, females 3287; black males 336, females 340. We subjoin Dr. Dunnel's "Remarks," which will be found highly interesting by those who take an interest in such statistical subjects.

"By this report it will be seen that the deaths in 1838 were 679 less than in 1837. Precisely the increase of 1837 over 1836.

"It may be well, for the gratification of those who have not the time or taste to enter into the investigation, to subjoin a running commentary upon some of the details herein presented.

"There are several interesting results to be gleaned from the precise and peculiar mode of arranging these tables, and which could not be shown by any other method.

"Leaving others to account for the causes, while the facts are simply placed before them, I will premise that, while the total of deaths has been 679 less, the variation in prevalency of different diseases has been immense; from a decreased mortality of 1654 upon some, to an increase of others of 1209.

"The decrease has been chiefly upon the following diseases, viz: of Scarlet Fever, 322; Typhus, 234; Consumption, 233; Convulsions, 178; Measles, 159; Small Pox, 79; Fever, 74; Teething, 96; Inflammation of the Chest, 40; Diarrhœa, 30; Drunkenness and Delirium Tremens, 31; Childbed, and Puerperal Fever, 24; Dropsy, 19; Bleeding, 12; Mortification, 10; Old Age, 8; and Epilepsy, 5; and 28 less were drowned.

"Of the diseases that have increased, the following stand most conspicuous: of Cholera Infantum, 184. More deaths of this disease occurred this year than ever before, with the single exception of the cholera year, 1834, when it was only 38 greater. In the year 1832, it was 103 less than in this. The increase of Marasmus is 178; Hooping cough, 156; Unknown, 102; Apoplexy, 53; Croup, 31; Remittent Fever, 28; drinking cold water, 20; Malformation, 31; Organic disease of Heart, 18; Bleeding from Lungs, 13; Dropsy of Chest, 13; Scrofula, 12; while of casualties, 12 more occurred, and 8 more were killed or murdered.

"The increase of Apoplexy, Unknown and drinking cold water, occurred chiefly during the extremely warm part of last summer.

"The number of Still Born and Premature is precisely the same as last year. There is a curious circumstance connected with this casualty that deserves a remark; that is, the great disproportion of white males to white females, and which does not take place between the sexes of the blacks.

"The greater fatality of male life in the white race commences before birth, and continues throughout the first year of existence. This year almost 51 out of every 100 died before reaching 5 years of existence, of whom over 25 were white males, and 22 females—the rest blacks. This inequality does not continue so great after passing the year; there being but trifling variation, (although the males exceed,) between 1 and 2—2 and 5—5 and 10, until between 10 and 20, females predominate; between 20 and 30 they are nearly the same; but, between 30 and 50, even to 60, the males are almost double in number to females. Between 60 and 70, they vary a trifle; between 70 and 80, the females outnumber the males, but from 80 upwards they are equal.

"Throughout the whole series there is a total excess of male deaths, of nearly 10 per cent., and this cannot arise from exposure or casualty alone. There is not a disease of childhood, except Whooping Cough and Measles, in which the male deaths do not preponderate. The same thing occurs with few exceptions, at the other periods of life, excluding the peculiar diseases of females, and old age. Of casualties of all kinds, the males exceed females only 148.

"According to the last census, the female population was not 5 per cent. greater than the male. This constant loss of male population (which, taking the whole series embraced in my last year's report, of 32 years past, has been still greater, having been nearly 12 per cent.,) is in some way or another supplied, or, inevitably, the male race would eventually become extinct. It is for the purpose of ascertaining the facts, that a register of births is desirable.

"It is singular, in regard to the deaths of the coloured population, that the males and females differ so little; the coloured females exceed the males only one.

"Of those diseases so fatal under the year some of them are fatal within a few days of birth. Of Convulsions 638 died—501 of them under the year; but 159 of them were not 7 days old; between that and 21 days, 177 died; between that and 2 months, 79; and 28 between that and 3 months, leaving but 118 to divide between the remaining three fourths of the year. Of Malformation and Premature, 77 died under 20 days.

"I have placed in the table, on a line with the sex and age, the nativity of the

persons; in order, if possible, to show the effect, if any, this may have upon disease. By a careful examination of which it will be seen, that of Apoplexy 49 were natives; and 104 Europeans; of Palsy, Epilepsy and Insanity, one half of the males were Europeans, and of Bleeding from the Lungs, they exceed the natives. Of Consumption, 1225, there were natives 665, and Europeans 539—11 of adjoining countries, and 10 unknown. The deaths by this disease, excluding casualties of all kinds, is 1 out of 5 of the whole; of which 1 out of 9,293 are white natives, 1 out of 4,566 blacks, and 1 out of 2,877 Europeans. Of Inflammation of the Stomach 28 were native and 36 Europeans. Organic diseases of the Heart, 27 natives and 28 Europeans. Of Child bed and Puerperal Fever, 16 natives to 21 Europeans. Of Intemperance and Delirium Tremens, 40 natives to 55. Suicides, 23 natives to 19. 41 natives and 44 Europeans died of casualties. Out of 22 deaths from drinking cold water, 19 were Europeans; and of Old Age 57 natives, 54 Europeans, and 3 from the adjoining British provinces.

"I have divided Europe into different sections in the tables, because of the greater number from some sections; they are all included in these calculations.

"It would tend very materially to an insight into these matters, if the census gave any clue to the proportion of native population of this city; but as it does not, much must be left to conjecture.

"I have made no estimate of the deaths proportioned to the population; because it will necessarily be very unsatisfactory until an accurate register is kept, based upon the deaths, and not upon the interments only, in this city.

"The tables are as extensive and minute as can be made; unless the various occupations of the individuals could be obtained—a thing impracticable under the present law.

"The novel plan of arranging these tables, introduced for the first time last year, has, it will be perceived, been carried into still greater minutiæ." G. E.

Article XIX. *De Fungo Genu nec non de Tuberculis in hoc morbo inventis. Dissertatio, quam pro Summis in Medicina et Chirurgia honoribus rite capessendis conscripsit ac publice defendit* Franc. Josephus Lederle, Badensis. Anno, MDCCCXXXVIII. 8vo. pp. 81. Petropoli, 1838.

An Inaugural Dissertation on Fungus of the Knee and on the Tubercules, which occur in that disease. By F. J. Lederle, of Baden.

The disease denominated by the author, after several of the older surgical writers, fungus of the knee, is that now better known by the name of white swelling. In relation to the history, the symptoms, the predisposing and exciting causes and the treatment of this affection, he has availed himself of the observations recorded by the best writers, without adding to them, however, any thing of importance.

In regard to the pathology of the disease, so far at least as regards its immediate cause, or the nature of the changes in the tissues of the knee joint, in which it consists, but little satisfactory is known, and the author's attempts to throw light upon this important particular are very far from successful. He denominates the disease a dynamico-vegetative pseudoplasma of the synovial membrane —a specific irritative-congestive affection of the nerves and vessels of the joint, giving rise to the secretion into the fibrous tissues surrounding the knee, of a peculiar viscid fluid, and occurring in persons where there already exists a latent condition of the synovial membrane predisposing it to take on this specific irritation. A definition which leaves us as much in the dark as ever as to the pathology of the disease, and leads to far less beneficial results in reference to its prevention and cure, than would a minute and careful description of its phenomena—the various causes, predisposing and exciting, to which it may be referred, and the lesions observed after death in the several tissues of the parts in which it is seated.

The only interesting part of the dissertation before us, are the observations of the author on the connection of the disease, of which he treats, with that peculiar morbid condition of the organism, in which tubercles are readily produced in nearly all the tissues by the slightest causes. Even on this point, however, he has presented nothing new, nor has he given a very full digest of the facts in relation to it recorded by others. D. F. C.

ARTICLE XX. *A Treatise on the Diseases produced by Onanism, Masturbation, Self-pollution, and other excesses.* By L. DESLANDES, M. D., &c. Translated from the French, with many additions. 12mo. pp. 252. Boston, 1838.

AMONG the numerous works that have appeared on the subjects treated of in the volume before us, we have as yet met with no one in which is presented a series of well-observed and carefully collated facts, tending to show conclusively the real morbid influence upon the different portions of the organism of unnatural excitations of the sexual organs. We have, it is true, the histories, almost without number, of cases of various forms of disease, occurring in individuals of both sexes, who were addicted to onanism or other kindred excesses; but the facts of these cases have either been badly observed or carelessly detailed, for they afford us no aid in determining how far the relators were warranted in attributing all the morbid phenomena by which they were attended to the vicious practices alluded to.

It may be received, we are perfectly aware, as a pathological axiom, that premature and excessive excitement of any of our organs will, sooner or later, produce disease in that organ as well as in others with which it is closely related. But the point upon which we wish to be informed is, what are the lesions directly attributable to premature and excessive excitation of the genital organs in the two sexes? A careful investigation of this point will, we are convinced, show that in some instances, at least, the most important diseases that are so generally attributed to onanism, &c., result from the same morbid condition of the organism upon which the tendency itself to onanism and other venereal excesses depend.

This is not the proper place to adduce the reasons which have led us to this conclusion, nor to enter into a more extended examination of the subject in any of its bearings. A perusal of the work before us has convinced us, however, that it is one but little understood, and that it is still deserving of a more close investigation, to the intent of deducing in relation to it accurate views as well hygienic as pathological.

The treatise of M. Deslandes is certainly one of the best that has appeared on the diseases produced by onanism, &c. The numerous facts it contains, nevertheless, do not appear to us to be well arranged, nor the inferences deduced from them to be in every instance strictly legitimate. Its chief merit consists in its presenting a synopsis of nearly all the leading facts recorded by the different writers, who have treated, either professedly or incidentally, of the effects of premature unnatural excitement of the sexual organs. Much good sense and many judicious directions will be found in the second part, which treats of the rules, preventive and remedial, relative to venereal excesses.

We have not compared the translation before us with the original French; it appears, generally speaking, however, to be executed with sufficient accuracy. The "many additions," noticed in the title page, are embodied in the work, without any marks sufficiently to distinguish them from the text of the author—a practice which cannot be too severely censured. D. F. C.

ARTICLE XXI.—*A Treatise on the Diseases of the Eye, and its Appendages.* By RICHARD MIDDLEMORE, M. R. C. S., Surgeon to the Birmingham Eye Infirmary. London, 1835: 2 vols. 8vo. pp. 800 and 844.

Traité de l'Ophthalmie, la Cataracte et l'Amaurose, pour servir de supplément au Traité des Maladies des Yeux de Weller. Par J. SICHEL, M. D. et C. &c. &c. Paris, 1837: pp. 750, 8vo. avec 4 planches colories.

Manuel Pratique d'Ophthalmologie, au Traité des Maladies des Yeux. Par VICTOR STOEBER, M. D. &c. Bruxelles, 1837: pp. 389, 12mo. planches 3.

The Principles and Practice of Ophthalmic Surgery. Comprising the Anatomy, Physiology, and Pathology of the Eye, with the Treatment of its diseases. By BENJAMIN TRAVERS, ESQ., F. R. S. &c., and Joseph Henry Green, Esq., F. R. S. &c. &c. Edited by ALEXANDER COOPER LEE. London, 1839: pp. 242, 12mo.

Cours d'Ophthalmologie, au Traité complet des Maladies de l'œil, Professé publiquement a l'Ecole pratique de Médecine de Paris. Par M. ROGNETTA, D. Med. et C. &c. &c. Paris, 1839: pp. 468, 8vo.

Lectures on Diseases of the Eye. By JOHN MORGAN, F. L. S., Surgeon to Guy's Hospital, and Lecturer on Surgery, at that Institution. Illustrated by 18 coloured plates. London: 1839. pp. 221.

THE numerous contributions which have been made within the last few years to the literature of Ophthalmic Surgery, manifest an increased attention to that department of our science which cannot fail to be attended by the happiest results. Not only must it be productive of a more general and better acquaintance with the diseases of one of our most important organs, but also contribute to the advance of Pathology and Therapeutics in general; for the superficial position of some of the tissues of the eye and the transparency of others affords opportunities for observing morbid processes and the influence of remedies upon them, which cannot be obtained for the study of the diseases of the same tissues in other parts of the body.

The first work in our list, that of Mr. MIDDLEMORE is an exceedingly elaborate one, and constitutes in itself, almost a complete library of Ophthalmology. If less rich in the results of personal experience than the Treatise of Mr. Lawrence, it is far more comprehensive, and must be considered as entitled to the first rank among the standard works of authority and reference.

The Treatise of Dr. SICHEL, a German for some years residing in Paris, is limited to the consideration of inflammations of the different tissues of the eye, and to cataract and amaurosis. These affections, are, however, treated of in great detail, and in a very able manner. Its principal fault is the disposition which the author indulges for the split-hair divisions and pure abstractions, characteristic of German science.

The manual of Dr. STOEBER is ample in its scope, embracing an account of the pathology and treatment of all the affections of the Eye and its appendages, but presented in a very compendious manner. To nearly every section there is a select bibliography, furnishing a reference to the best treatises and papers on the disease of which it treats. It is the best compend on the diseases of the eye that we have met with.

The work edited by Mr. LEE covers a wider field than any of the others we have noticed, professing to describe the Anatomy, Physiology and Pathology of the Eye and its appendages with the Treatment of its diseases. As all this is comprised in 242 duodecimo pages, it will be readily conceived that the subjects are treated of in mere outline. The best part of the work is that devoted to the Physiology of the Eye and its appendages. This is exceedingly interesting and may be read with advantage. The concluding part, that on the Pathology and Treatment of diseases of the Eye and its appendages, is valueless; how indeed could it be otherwise when it is attempted to discuss so extensive a subject within the limits of one hundred duodecimo pages.

The Treatise of Dr. ROGNETTA is characterised by extensive reading and

research. The author seems perfectly familiar with the writings of the Italian, French, and English writers on Ophthalmic Surgery, and has given us a good abstract of their opinions. These are presented in the most concise language, and as the work is closely printed, and in small type, the author has compressed within narrow limits much useful information. A precise knowledge of the virtues of the remedies made use of in the treatment of diseases of the eyes, being, the author justly observes, essential, and this subject having been hitherto much neglected, he has prefixed to his work the result of his studies relative to the therapeutic powers of the belladonna, strychnine and mercurial preparations.

The lectures of Mr. Morgan, the author informs us in his preface, are published at the request of his pupils, and not from any wish on his part to appear before the profession and the public, as an author of what will, he fears, be considered by them as a very imperfect work, on the subject of Ophthalmic Surgery generally. "Neither as a lecturer nor as an author," he observes, "do I put myself forward as a competitor for professional fame and distinction with those who have preceded me as the public instructors of their students on the science here treated of, and as advocates for the connection of Ophthalmic and general Surgery, but having been repeatedly urged, not only in private but publicly, by so many of my class to supply them by publishing my lectures, with that, which they considered would be a short text book for their studies at Guy's Hospital Eye Infirmary, I now do so in compliance with their wishes, in the hope of affording them a permanent and perfect reminiscence of those instructions, which I have spent so many proud and grateful hours in offering them. I cannot refuse to take all the chances of good or evil which may await me, in thus acceding to the wishes of my young friends, although laying myself open, as I doubt not I am now doing, to the censure of many, who, perhaps from various causes may have expected something better than my present production.

"My object has been to describe, concisely and clearly, the more common and the more important diseases to which the eye is subjected, with what experience has taught me to be the best general treatment, and to illustrate, as much as possible, the analogy between diseases of the eye and those of other parts of the body."

It would be manifestly unjust to try a work by a higher standard than that which the author proposes for himself, and it may, therefore, be sufficient praise to award to Mr. Morgan the merit of having accomplished what he has designed —to put forth a work which may serve as a short text book for students. His lectures have no claim to higher merit.

There is one object which Mr. Morgan has had too constantly in view—the desire to illustrate, as much as possible, the analogy between diseases of the eye and those of other parts of the body. This, though a very legitimate and praiseworthy design, has, we conceive, exerted an injurious influence over a portion of his therapeutics. From the facilities afforded for the study of the diseases of the eye, and the influence of remedial agents upon them, to which we have already alluded, the treatment of ocular inflammation is in many respects in advance of the treatment of this affection in similar tissues in other parts of the body, as laid down in the works on general surgery. But Mr. Morgan, instead of making use of the lights thus obtained to illuminate the obscure points in the treatment of inflammation of parts concealed from view, has plunged the former in the mists which involve the latter; and, consequently does not employ many remedies which the fullest experience has shown to be often the most effectual and prompt for the cure of inflammations of the eye.

ARTICLE XXII. *Medical Lexicon. A New Dictionary of Medical Science, containing a concise Account of the various Subjects and Terms; with a Vocabulary of Synonymes in Different Languages, and Formulæ for various Officinal and Empirical Preparations, &c.* 2d edition, with numerous modifications and additions. By ROBLEY DUNGLISON, M. D., M. A., P. S., &c. Philadelphia: Lea & Blanchard, 1839. pp. 821, 8vo.

THE merits of this work are already well known to the profession, the first edition having been published several years since. It may be sufficient therefore to state, that the present edition is a greatly improved one. It contains "many hundred terms more than the first," as the author informs us in his preface, and has experienced numerous additions and modifications which add much to its utility. We trust that the circulation of the work will be such as, in some measure, to compensate the author for the ungrateful toil of compilation.

ARTICLE XXIII. *Transactions of the Medical Society of the State of New York*, Vol. iv. Part 2. Albany: 1839. pp. 56, 8vo.

Journal of the Proceedings of the Medical Convention of Ohio, at its Third Session, begun and held in the City of Cleaveland, on the 14th and 15th days of May, 1839. Cleaveland: 1839. pp. 48, 8vo.

Minutes of the Medical Society of Tennessee, at the Tenth Annual Meeting, held in Nashville, May, 1839. Columbia: 1839. pp. 44, 8vo.

Proceedings of the President and Fellows of the Connecticut Medical Society in Convention, May, 1839, *with a List of the Members of the Society*. Hartford: 1839. pp. 16, 8vo.

THESE four publications possess peculiar interest from the circumstance of their having been issued nearly simultaneously, from the almost extreme points of the Union, and bearing evidence that every where the profession are labouring with zeal for the advancement of medical science.

The present part of the Transactions of the Medical Society of New York, is not less valuable than the preceding ones. It contains the Annual Address of the President, Dr. LAURENS HULL; two Addresses, by Dr. A. CHURCH, before the Tompkins County Medical Society—one on Spinal Disease—the other on Quackery; an Address before the same Society on the Objects, Ends, and Duties of Medical Societies, by Dr. DANIEL D. PAGE; a Translation, by Dr. H. B. WEBSTER, of Professor Caspar's Essay on Suicide; and Statistics of the Medical Colleges in the United States, by T. R. BECK, M. D. To these are appended an abstract of the Proceedings of the Society at its Annual Session in February last, and some matters mainly of local interest.

The only article we have space to notice particularly is that of Dr. CHURCH on Quackery. This evil seems to be the favourite topic for medical discourses, and, considering the extent to which it pervades the country, this cannot excite our surprise. Its causes, and the sufferings it inflicts, have been fully set forth, and ingenuity has been exhausted almost in devising means for putting an end to it.—But hitherto in vain. Quackery, we fear, finds in the weaknesses of the human mind too favourable a soil for its growth ever to be effectually checked, much less for it to be wholly rooted out of society. The following very sensible suggestions, nevertheless, of Dr. Church, for lessening its evils, if adopted, would at least benefit the community, and add greatly to the respectability of our profession, even if they failed in accomplishing the object for which they are proposed.

"We have seen," he observes, "how futile is legislation against that class of men denominated quacks. They have too strong a hold on the sympathies of a large class of the community—most of them ignorant to be sure, but many of them respectable, and even influential. It has only served to bring these sympathies into active exercise, and cause them to be looked upon as an oppressed and persecuted set of men; as men who are useful in their vocation: and instead of

creating a distrust of them, it has manifestly operated to increase the number and devotedness of their adherents. It is, therefore, my belief that if such a class was unknown in law, there would be fewer of them.

"Instead then of petitioning our Legislature to pass laws restraining these men, let us petition them to pass such a law as would be calculated to lessen materially the diseases that more commonly fall into their hands. And this, I think, may be done by requiring a more thorough course of preparation on the part of the physician, before he is allowed to practice on his own responsibility.

"Instead then of the present meagre requisitions of the law, is it not advisable to enlarge them in regard to preparatory study, and place them on a footing with those of the profession of law? I can see no reason why the knowledge of a medical practitioner should not be as extensive, his philosophical researches as profound, and his attainments in every respect as great, as those of any other professional man. I am sure, no one acquainted with the duties of our profession, will say that the difficulties or importance of arriving at just conclusions, are less in ours than either of the other professions. It is ignorance, gross ignorance on the part of our legislators, that has thus placed our profession in the back ground. I do not know but many would think my ideas bordering on the extravagant in regard to the subject of preparatory education, but it appears to me, that either a regular course of classical studies in any of our colleges, or at least four years devoted to the various departments of literature and philosophy, is not too much to require of a young man previous to the commencement of professional study. In the course of this time, if he has exercised proper diligence, and that rightly directed, he will have obtained a respectable acquaintance with literature, and become tolerably well grounded in the elements of the various departments of philosophy: his mind will have acquired such a degree of discipline, that he can commence and pursue, to good advantage, the study of any science; he can far outstrip another of equal natural abilities who has been deprived of these advantages. If, after enjoying these advantages, he were to spend three years in the study of medicine, and at the end of that time spend one year as a house pupil in a hospital, or, what may perhaps be better, in practice under the direction and responsibility of a judicious practitioner of experience, his education would be as nearly complete as could be reasonably demanded; and he might set out on his professional career with confidence in his ability to meet most of the emergencies of the profession. He would be placed above the necessity of resorting to those little shifts to conceal his ignorance, to which men of inferior attainments are so constantly obliged to resort, and to do which, as well as to wheedle themselves into the good graces of the nurses and old women, draws so strongly on their mental resources as to leave them no room for professional improvement. This, gentlemen, is no fancy sketch. It is drawn from life, and this state of things will exist until our laws are so framed as to show young men that our profession was designed as well to benefit mankind as to afford them the means of an honourable livelihood. Our profession has become numerous far beyond the wants of the community, and this in itself has a tendency to retard the advancement of medical science. Not but what there should be a sufficient number to excite an honourable competition, but when a profession becomes so numerous, as that a large proportion must be idle a considerable part of the time, it follows that they do not have opportunity to be in the habit of constant observation of diseases, which is necessary to acquire the tact of experience. By requiring a suitable preparation before commencing professional study, and extending the time of professional study itself, or by requiring some time spent in actual practice, before granting licenses and diplomas, a considerable proportion would be deterred from entering the profession, who now do so because it is the shortest road, and least expensive, to any kind of employment above that of a common labourer."

The Journal of the Medical Convention of Ohio contains some matter of great value, especially the address of the President, Dr. S. P. Hildreth, "on the climate and early history of the diseases in Ohio." In this interesting paper the author treats of 1st, the topography and primitive aspect of the country on

the Ohio river; 2d, the climate and its changes from the effects of cultivation; 3d, the diseases of the aborigines; 4th, the diseases of the first white settlers, and early epidemics; 5th, the treatment of diseases thirty years since; 6th, recent epidemics; 7th, diseases common to this climate, with the modifications which have taken place from changes in diet, fashions, habits, &c.

The Minutes of the Medical Society of Tennessee, in addition to an account of their annual meeting, contain an address by Dr. A. H. Buchanan, of Columbia, on quackery; also, a very interesting case by the same, illustrative of the etiology of spontaneous amputation of the limbs of the fœtus in utero; and some extracts from an address by F. Stith, M. D.

The address of Dr. Buchanan is well written, and contains some useful information. The measures he wishes to be adopted, for the protection of the people from imposition, are "rigid legislative enactments." The case will be found in another department of this Number. As to Dr. Stith's paper, we could not do justice to it without giving it entire, as we must confess that his aim and meaning are not discoverable by our limited intellect—a category in which we shrewdly suspect the author himself to be included.

The proceedings of the Connecticut Medical Society are of merely local interest.

Article XXIV. *On the Methods of Acquiring Knowledge. An Introductory Lecture to the Course of the Institutes of Medicine, for the Session* 1838-39. *Delivered in the University of Pennsylvania, Nov.* 6. 1838. By Samuel Jackson. Philadelphia: 1838. pp. 32, 8vo.

Valedictory Address to the Students in Medicine of the College of Physicians and Surgeons of the University of New York. Delivered Feb. 28, 1839. By John B. Beck, M. D., Prof. Mat. Med. and Med. Juris. New York: 1839. pp. 24, 8vo.

An Address delivered to the Students of the Louisville Medical Institute, in the presence of the citizens of the place, at the commencement of the Second Session of the Institute, Nov. 13. 1838. By Joshua B. Flint. M. D., Professor of Surgery. Louisville, Ken.: 1838. pp. 31, 8vo.

An Annual Address to the Candidates for Degrees and Licences in the Medical Institution of Yale College, Feb. 26. 1839. By Thomas Miner, M. D., Member of the Board of Examination, and late President of the Connecticut Medical Society. Published at the request of the Class. New Haven: 1839. pp. 20, 8vo.

An Address delivered to the Graduates of the Philadelphia College of Pharmacy, April 23, 1839. By Joseph Carson, M. D. Prof. Mat. Med. and Pharm. Philadelphia: 1839. pp. 16, 8vo.

These addresses are all appropriate to the occasions on which they were delivered, and creditable to their authors.

The lecture of Professor Jackson is of a high order of merit. It bears the impress of the author's richly stored and philosophical mind, and exhibits a depth of reflection and a freshness and originality in the views rarely met with in productions of its class.

The different methods, with their respective advantages and defects, by which knowledge is acquired and rendered accurate; by which sound and judicious opinions are formed; by which truth is to be sifted and separated from error; are clearly set forth, and justly estimated.

Professor Beck's valedictory is an exceedingly well written and judicious address, and contains sound advice relative to the means by which professional eminence may be promoted.

Professor Flint discusses the objects of the medical profession; the personal qualities and accomplishments calculated to secure eminence therein, and some of the sources and aids of medical improvement during the period of pupilage and afterwards, in a manner which denotes a facility at sketching, a sprightly imagination, and considerable talent for sarcasm. His pictures of French

medicine, and particularly of French surgery, are clever fancy sketches; but that it was judicious to exhibit them to a miscellaneous audience and to young students, who are not always competent to distinguish badinage from sober earnest, and might mistake these caricatures for portraits, is to say the least doubtful.

The principal duties that devolve on those who desire to rise to eminence in the profession are inculcated by Dr. MINER, in a plain and sensible manner. With much to praise, there is, however, one passage to which we regret to say exception may be taken. Whatever may be thought of the accuracy of the following laudatory notice, it can hardly be considered to be in the best taste.

"Nothing is more common than to overlook and undervalue the high advantages which we enjoy. In this point of view, I have often thought that this medical institution has not been sufficiently appreciated, either by the medical profession or the public. I feel confident in boldly asserting, that the means for obtaining a thorough medical education, in probably all its branches, are fully equal to those of any other school in the country. The opportunities for acquiring a minute knowledge of anatomy are as good, and the means are furnished at as moderate an expense, as at any other place. Our course of chemistry is allowed to be unrivalled. Our courses upon surgery, and upon theory and practice, will respectably compare with any others. Upon one important branch we are decidedly superior to all our cotemporaries. In the study of indigenous materia medica, which was so happily begun by the first professor, who may be considered as the founder of this branch of materia medica, and which has been continued by his successor, we are decidedly without a rival, and are probably half a century in advance of the age. It is probable that more indigenous articles are regularly employed by those who have been educated in this school, or have been connected with it, and their nature is better understood, than by all the other physicians of the United States, or of the world. In this respect, justice has never been half done to this institution, either at home or abroad."

Professor CARSON's address is an exceedingly neat one, and the topics discussed are judiciously selected. Correct views are presented of the science of pharmacy, the objects which the pharmaceutist should strive to attain, the means he should employ, and the motives by which he should be governed.

ARTICLE XXV. *Outlines on Physiology; with an Appendix on Phrenology.* By P. M. ROGET, M. D. &c. First American edition, revised, with numerous notes. Philadelphia: 1839. pp. 516, 8vo.

THE present volume is made up of the two articles "Physiology" and "Phrenology," contained in the last edition of the Encyclopædia Britannica.

The outlines present a very interesting, and, in most particulars, accurate sketch of the present condition of physiology; which may be placed, with great propriety, in the hands of the student, as an introduction to the more extensive and elaborate treatises, with the contents of which he will be required subsequently to make himself acquainted.

Individuals not of the medical profession, who may desire to acquire a general knowledge of physiology, will also find the outlines of Dr. Roget to be very well adapted for their use.

The notes appended to the present edition are judicious and useful; supplying several omissions of the author, correcting some of the particulars which, in the opinion of the American editor, were either erroneous or doubtful, and furnishing references to works from which more ample information may be obtained.

Of the "Appendix on Phrenology" we have little to say—that it is not considered by phrenologists either a fair or conclusive refutation of their peculiar views ought to be borne in mind by the reader. As we are convinced that truth will ultimately be the gainer, by every species of attack she may sustain—inasmuch as men's minds are often in this manner instigated to her investigation—the Appendix to these outlines, however much we may differ from some of the views there set forth, does not deter us from recommending warmly the work to the perusal of all interested in the study of physiology. D. F. C.

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

GENERAL ANATOMY AND PHYSIOLOGY.

1. *Case of Anæsthesia (Loss of Sensation) in the course of distribution of the Fifth Nerve, with Remarks.* By Dr. Romberg of Berlin.—It is well known how few have been the instances of pathological conditions of the fifth nerve which have been recorded, compared with the numberless cases of affections of the N. facialis, since Sir C. Bell's work has given to this branch of pathology so much interest. It must be admitted, however, that diseases of the fifth pair furnish more satisfactory evidence of the real nature of their function than can be obtained by means of vivisections. The following is a case of interest, both with regard to the physiological character of this nerve and the diagnosis of its abnormal conditions:

A widow, aged forty-two, fell down stairs backwards, and received a violent blow on the occiput. A twelvemonth afterwards her catamenia ceased. From this time she was subject to attacks of sneezing, which increased so much, both in violence and duration, that the slightest circumstance provoked the convulsions, and her sleep was continually disturbed by them. The examination of the nostrils afforded no clue to the cause of this condition, and I, therefore, sought to account for it in the injury done to the head, implicating, possibly, the nasal filaments of the fifth nerve. On investigating the regions to which the first and second branches of the fifth are distributed, I found the sensibility undiminished, but upon arriving at the region of the third branch, I found complete anæsthesia in its whole extent. I will here detail the symptoms, as I have repeatedly demonstrated them to my pupils, and likewise in the presence of Prof Müller and other friends. I always took the precaution of effectually binding the patient's eyes, which I deem to be necessary in such investigations, in order to guard as much against simulation as to prevent the patient being misled by the sight of the instrument used.

The left half of the under lip, both on its external and internal surface, and the left half of the chin, did not betray the least sensibility on being pricked with a sharp vaccinating needle; this was likewise the case with the left ear and the meatus externus. The same parts were insensible to the flame of a taper. The insensibility extended upwards to the left temple, bordering on the hairy scalp, and including the tongue also. There was no pain caused by pricking, nor was there perception of heat or cold on the side, point, or surface of the tongue on this side.

On the right side of the head all these parts were in full possession of their sensibility, and indeed all the other sensitive nerves of the left side preserved their integrity, so that the limits of the distribution of the third branch of the fifth could be accurately marked out by means of pricking the skin. If the needle came in contact with the skin of the temples towards the forehead, the

patient gave immediate signs of pain, from the presence of branches of the frontalis: the same result ensued on injuring the integuments covering the horizontal portion of the lower jaw, from the presence of the subcutaneous branches of the third cervical nerve.

Besides the loss of sensation, with reference both to heat and cold and mechanical injury, which the tongue displayed, I found that the sense of taste was obliterated. No kind of substance, fluid or solid, bitter or otherwise, produced the least impression on the left side, whilst on the right, they were discriminated with precision. I tried this experiment with various substances, as colocynth, various salts, acids, &c.

Notwithstanding this partial disturbance of the sensibility of the left side of the face, nothing of the sort existed in the motory function. Neither the expressive or mimical (*mimische*), nor the respiratory or masticatory motions were impaired. The same was the case with the masticatory and articulatory motions of the tongue. The nutrition of the left side was unimpaired; the dimensions, colour, and moisture of both sides being alike, and blood flowing with the same readiness, and ceasing equally soon on the left side as on the right.

From these premises I drew the following diagnosis: "The anæsthesia which extends throughout the distribution of the third branch of the portio major of the fifth, indicates an isolated affection of this nerve, and, indeed, a compression of its trunk, since the loss of sensibility has been unaccompanied throughout with painful sensation in the parts to which the nerve is distributed. The cause of the existing pressure must include the whole of the primitive filaments belonging to this subdivision of the nerve, and, consequently (in all probability), the trunk of the nerve itself, for there is an entire absence of sensibility in all the organs supplied by it; and, on the other hand, the immunity of the parts supplied by the remaining two branches of the fifth, prove that the pressure cannot be situated in the Gasserian ganglion, else there would be more or less implication of other parts in the anæsthesia; neither can the seat of pressure be external to the foramen ovale of the sphenoid bone; for from this point the motor and sensitive fibres of the third branch are in such close juxtaposition, that it would be impossible that one class of functions should be so completely annihilated and the other be left unimpaired, (it will be remembered that the masticatory motion of the left side was not weakened.) I am, therefore, led to assume the presence of a tumour, either of the dura mater or of the bone, so situated as to cause pressure on the third branch of the fifth nerve, previous to its passage out of the foramen ovale."

On the 19th March, the patient died of dropsy, and the body was brought for examination to the Anatomical Theatre, in Berlin. Previous to the section, I repeated my diagnosis to those present, viz., Prof. Müller and Drs. Henle, Schwann, and Philipp.

The investigation of the contents of the cranium, gave the following result: The surface of the brain was covered with a gelatinous, and more or less white, opaque exudation. A portion of the brain, of about the size of a walnut, situated on the inferior surface of the posterior lobe of the left hemisphere, and corresponding to the posterior horn of the lateral ventricle, was softened, but without any sign of vascular injection in the neighbourhood. In other respects both the brain and spinal cord were normal. The third branch of the fifth nerve, just at its point of entering the foramen ovale, was surrounded by a reddish vascular tissue, consisting partly of fibres and vesicles. Closer investigation showed it to be an exudation into or hypertrophy (Wucherung) of the neurilema, passing into the dura mater, in the direction of the origin of the nerve, and becoming gradually lost upon the neurilema, inclosing the nerve after its passage through the foramen ovale. The neurilema was thickened, and reddish throughout that portion which lies in the sphenoid bone, but becoming less so as it approached the spot where the ganglium oticum lies in contact with it. As far as the neurilema was altered in appearance, the nerve appeared to be thicker and firmer, and to possess a slight yellow color. The third branch of the Gasserian ganglion was the only portion of the nerve that had suffered any alteration. The

motor branch lay to the inside of the nerve, and joined it below the spot described. All the nerves supplying the buccinator, pterygoid, and temporal muscles were normal, as likewise those of the tongue and lower jaw, the quintus of the right side, and the glosso-pharyngeal nerve of both sides.

Remarks.—These observations could not have been made at a more opportune season than the present, when the controversy concerning the gustatory nerve engages so much the attention of physiologists. I think I shall not be presuming too much, if I consider this case as conclusive evidence of the truth of the theory which maintains that real gustatory fibres are at least contained within this branch.

I express myself thus in order to avoid the general but erroneous view, that this nerve is an aggregate of homogeneous filaments; for this case incontestibly proves that sensitive and gustatory elements are included in it. Pathological facts are in this case of infinitely more value than experiments on animals; and this is true of all the perceptions of sense. In the experiments respecting the participation of the glosso-pharyngeus and lingualis in the sense of taste, neglect of this consideration led to erroneous conclusions. The sensitive functions of the tongue were limited to those of mere sensation and taste; and a third, one of considerable importance, was overlooked, although it is one that the most simple experiment may serve to establish. For instance, if the finger be passed over the point, edge, or middle of the tongue, nothing but ordinary sensation is excited; but as soon as we approach the papillæ vallatæ and the root of the tongue, the feeling of nausea is excited together with a sense of choking, a decided reflex action. It is in these papillæ, and also in the velum and other parts which when irritated give rise to the same sensations, that the filaments of the nervus glosso-pharyngeus* are distributed. In most of the experiments made upon animals with reference to this circumstance,† it is stated that nausea and strangulation were excited in cases where the glosso-pharyngeus was uninjured; but I think it was incorrect to ascribe their production to the influence of taste. I consider that the greater abundance of the papillæ vallatæ has reference, in animals, to the instinct possessed by them, inasmuch as I consider the sensation of nausea, &c., to be of more importance in enabling them to discriminate between noxious and innocuous food than mere taste. The observations of Rudolph Wagner‡ seem to strengthen this opinion, for he shows that papillæ vallatæ appear to have constant reference to the alimentary instinct of the different mammalia in their form, number, size, and situation. I need not observe that I differ from him in attributing the function of taste to the glosso-pharyngeus.

From the reasons above stated, I do not hesitate in terming the glosso-pharyngeus *the nerve of alimentary instinct.* This, too, explains its uniform presence in all classes of animals, whilst the lingualis is wanting in birds.

Besides the specific sensitive function of the glosso-pharyngeus, its peculiar reflex action, above alluded to, is very deserving of attention. It is exceedingly interesting to observe how different are the reflex functions peculiar to contiguous organs, even when produced by the same stimulus. The irritation of the vagus in the glottis produces cough; in the fauces, the same nerve being irritated, excites the act of swallowing; the glosso-pharyngeus causes the phenomena we have described. A very instructive instance of this variety of reflex action is given by Marshall Hall, (Lectures, &c., p. 23,) where a person introduced a feather into the mouth in order to cause vomiting, by irritating the fauces, but passing it too far it became subject to the peculiar action of the

* The author terms the nerves frequently "*via*," thus, "via glosso-pharyngea" instead of nervus glosso-pharyngeus. His object is to avoid the apparent confounding several distinct kinds of filaments together, under a term which implies uniformity.—Trans.

† See Panizza and Valentin; Repert. für Anatomie u. Physiol. 1837. 2 Bd. 2 Abth'. S. 220.

‡ Neu Notizen aus dem Gebiete der Natur u. Heilk. No. 75.

œsophagus, and was drawn into the stomach. These reflex actions may be made use of as reagents in the investigation of the offices of sensible nerves; and as I lately found, whilst experimenting upon a horse, that irritation of the nervus vagus in the neck caused cough, so the irritation of the glosso-pharyngeus would, I doubt not, in all cases produce the sensation of choking.

The next important commentary that this case affords is the elucidation of the law of *isolated conduction* (isolirte Leitung) and *co-sensation*. The first of these laws insured the accuracy of the diagnosis, whilst the latter offers an explanation of the convulsive sneezing. For we can best comprehend the connection of the cause and effect, by supposing that this peculiar convulsive sneezing was produced through the radiation of the sensation, and transference of the irritation of the filaments of the third branch, to the nasal filaments of the first, (whether in the ganglion Gasseri or within the central organ I will not decide,) and by means of the reflex respiratory motion. The co-sensation in the cerebral end of the nasal twigs was so acute and the tension so considerable, that any the least stimulus gave rise to the sternutatory action, so that my experiments on the sensation of the face was often interrupted thereby.

We have hitherto only considered the case in its physiological characters, but it teems likewise in points of pathological interest; particularly of course with reference to the fifth pair of nerves, concerning which we know as yet so little.

In the hyperæsthesia of this nerve (tic douloureux,) the confusion and unintelligibility of the writings on the subject afford sufficiently convincing proof how little is known respecting it, and the paralysis of the fifth was a complete terra incognita, first discovered by the genius of Bell. Since that time some few cases have been published, which serve to throw a brighter light upon the subject. The paralysis affects either the sensible or motor branches, or both at once. Simple means suffice to establish this. Further, it must have either a peripheral or central origin; and here I would observe, that the former has a more extended sphere than is usually ascribed to it. It has been a common error in pathology to view the aggregate of nervous fibres, as they leave the basis of the brain as the nervous root or origin of the nerve, and, consequently, to include their diseases, whilst in this part of their course, under the head of affections of the central organs. But a nerve must be considered as peripheral in every portion of it, from its earliest origin to its remote termination. Thus, the paralysis of the fifth is peripheral, whether its inducing cause be seated in the surface of the face, in the sphenoid bone, the ganglion Gasseri, or in the neighbourhood of the pons varolii. The real locality of the affected portion may be determined diagnostically. The more isolated the anæsthesia, the more peripheral is the cause.

Thus, when caused by the extraction of a molar tooth, the anæsthesia was confined to half of the lower lip, as in other cases it is limited to the alæ nasi or the surface of the eye, &c. We may thus pursue diseases of the nerve in its course, until the loss of sensibility of the entire surface of the face supplied by it, combined with paralysis of the masticatory muscles, indicates an affection either of the ganglion Gasseri or the parts in its immediate neighbourhood. In cases where the ganglion is affected, another class of symptoms makes its appearance, possessing considerable physiological interest, viz., disturbance of the vegetative functions in the parts which are at the same time deprived of their sensation; this produces in the eye inflammation, suppuration, and ulceration, in the nasal and oral cavities redness, and hæmorrhage, and wasting of the gums. Such instances have been observed by Serres and Abercrombie.*—*B. and F. Med. Rev.*, April, 1839, from *Müller's Archiv.* 3 Heft. 1838.

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2. *Malformation of the Placenta.*—Dr. Durner of Thaurin, has recorded in a recent Number of *Medicinisches Correspondenz-Blatt*, a case in which he found the placenta completely divided into two equal parts, and held together solely by

* Diseases of the Brain, p. 424. Last Edition.

the chorion and amnion. The umbilical cord bifurcated three inches above its insertion into the placenta, each branch consisting of two arteries and a vein. The two placentæ with the cord, weighed four pounds two ounces. The infant was a first child still-born, at full time, well formed, but its extremities were smaller than usual.

This case is very remarkable for the great weight of the placenta, and its division into two equal parts. Meckel (*Handbuch der Pathol. Anat.* Leipzic, 1812, vol. i. p. 86) reports several examples in which the placenta was divided into two parts, but in all, one part was larger than the other in the proportion of 1 to 12, or 1 to 10, or of 1 to 8. Rohault (*Observ. Anat.* Turin, 1724, p. 7) saw placentæ divided into three, and in one case into four parts, but all of different sizes. Hoboken (*Anat. Secund. Human. Repet. Ultraj*, 1765, p. 198,) speaks of placentæ divided into four unequal parts. Meckel (*loc. cit.*) saw a placenta divided into five parts, four of which were nearly equal, and the fifth double the size. Kerkringius (*Observ. Anat.* p. 37,) and Wrisberg (*N. Comment. Soc. Got.* vol. iv. p. 73) saw a placenta divided into seven parts.

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3. *Transfusion of Blood.*—Professor Bischoff of Heidelberg formerly published his confirmation of the experience of Prévost, Dumas, and Dieffenbach, to the effect that fresh and unagitated blood procured from any of the mammalia, caused instantaneous death upon being injected into the veins of a bird. Upon repeating this experiment before his class, in the course of this and the previous summer, he was much astonished at not finding the usual fatal result to occur. In vain did he attempt to explain the cause of the disappointment, until it occurred to him whether, perhaps, there may be a difference in the effect of venous and arterial blood. In his former and latter experiments, he had taken a cat, rabbit, or young dog, and obtained blood from it by cutting its throat. It was therefore possible, that at different times the syringe had taken up different kinds of blood. To decide this, the following experiments were performed: In one leg of a dog the vena cruralis was exposed, and the arteria cruralis in the other. First, some blood was taken from the vein, and about a drachm was injected into the left jugular vein of a healthy cock. The bird died in a few seconds, under the most violent convulsions: A portion of blood from the artery of the other leg was then injected into the corresponding vein of a hen. The bird was powerfully affected by it, but the experiment did not prove fatal; in a short time it had recovered itself, and a small quantity of venous blood was injected, upon which the fowl died immediately. Precisely similar experiments were tried some time afterwards, and with the same results; here a few drops only of the venous blood proved fatal. A strong goose, also, bore the injection of arterial blood, but venous blood caused the most violent convulsions and death. What could be the cause of this remarkable difference? In order to avoid the possibility of other causes operating, every precaution was adopted. Thus, in order to prevent the possibility of plethora, a small quantity of blood was allowed to escape first; due care was also taken to avoid the injection of air into the veins, which however is by no means always attended with fatal consequences. There is then no doubt left, in the opinion of Dr. B., that it is the venous blood which exercises the fatal influence; how it acts, is a question which remains to be solved; and its solution will no doubt prove of service in increasing our knowledge of the differences between venous and arterial blood.—*B. and F. Med. Rev.* April, 1839, from Müller's Archiv. 4 Heft. 1838.

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4. *On the Decussation of Fibres at the junction of the Medulla Spinalis with the Medulla Oblongata.* By John Hilton, Esq.—The author first alludes to what usually happens in affections of the brain, namely, that the loss of voluntary power and of sensation manifest themselves in the opposite side of the body to that in which the cerebral lesion exists, a fact which has been attempted to be explained by the crossing of the fibres at the junction of the medulla oblongata with the anterior or motor columns of the medulla spinalis; but such a structure, he observes, affords no explanation of the loss of sensation. The author then,

referring to the communication of Sir Charles Bell to the Royal Society, in the year 1835, describing a decussation connected with the posterior columns, or columns of sensation, mentions that the accuracy of these dissections was doubted by Mr. Mayo and other eminent anatomists. The author proceeds to state that the symptoms of cerebral lesion do not always take place on the opposite side of the body to that in which the lesion of the brain exists, but that they occur sometimes on the same side; that the loss of power and of sensation, although confined to the same side, may exist in either the upper or the lower extremity; but that both are not necesarily implicated; and that, in fact, cases occur where there are marked deviations from what may be considered the more common occurrence. Having observed such cases, and not being aware of any satisfactory explanation, the author examined with care the continuation upwards of the anterior and posterior columns of the spinal marrow into the medulla oblongata and found that the decussation at the upper part of the spinal marrow belonged in part to the columns for motion, and in part to the columns for sensation; and further, that the decussation is only partial with respect to either of these columns; thus elucidating by the observation of the actual structure what before appeared very unsatisfactory in pathology, and anomalous in disease.

The paper is illustrated by drawings made from the dissections of the author. *Proceedings of the Royal Society.* 1837-8. No. 34.

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5. *An account of some Experiments on the Blood, in connection with the theory of Respiration.* By John Davy, M. D. &c.—The author has investigated, experimentally, several of the important questions connected with the theory of respiration and of animal heat; and arrives at the following results. He finds that the blood is capable of absorbing oxygen both from atmospheric air, and from oxygen gas, independently of putrefaction. After blood has been agitated in common air, a trace of carbonic acid, not exceeding one per cent., is found in the residual air; but when pure oxygen is employed, no carbonic acid can be detected in it by the most carefully conducted trials. When pure carbonic acid is brought into contact with blood, or serum, over mercury, and moderately agitated, the absorption of gas exceeds the volume of the fluid. Both arterial and venous blood are rendered very dark, and serum more liquid by the absorption of this gas to saturation. Serum, in its healthy state, is incapable of absorbing oxygen, or of immediately furnishing carbon to form carbonic acid: and after it has absorbed carbonic acid, only one-tenth of the absorbed gas is expelled by successive agitation with atmospheric air, or with hydrogen. The author is inclined to think that the alkali in the blood, in its healthiest condition, is in the state of a sesquicarbonate. In the majority of trials manifest indications of the disengagement of air from blood *in vacuo* were obtained: but as it occasionally happened that no air could be thus extricated, the author is induced to believe that the quantity of air contained in the blood is variable; and he has found this air to consist solely of carbonic acid gas. It would also appear, from the experiments detailed in this paper, that a portion of oxygen exists in the blood, not capable of being extracted by the air-pump, yet capable of entering into combination with nitrous gas; and existing in largest proportion in arterial blood. The absorption of oxygen by blood is attended with an increase of temperature.

The experiments of the author tend to show that the lungs are absorbing and secreting, and perhaps also inhaling organs, and that their peculiar function is to introduce oxygen into the blood, and separate carbonic acid from the blood; and they favour the idea that animal heat is owing, first, to the fixation or condensation of oxygen in the blood in the lungs during its conversion from venous to arterial; and secondly, to the combinations into which it enters in the circulation in connection with the different secretions and changes essential to animal life.—*Ibid.*

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6. *Diurnal variations of the Pulse.*—In *Guy's Hospital Reports* for April last, there is an account of some interesting researches on this subject by Professor

Guy of King's College, London. The results as given by the author of experiments made upon himself are, as follows—

1. The pulse of a healthy adult male in a state of rest, unexcited either by food or exercise, is most frequent in the morning, and gradually diminishes as the day advances.

2. The pulse diminishes in frequency more rapidly in the evening than in the morning.

3. The diminution of the frequency of the pulse is more regular and progressive in the evening than in the morning.

4. The effect of food is greater and more lasting in the morning than in the evening; and, in some instances, the same food which in the morning produces an effect considerable both in amount and in duration, has no effect whatever in the evening.

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7. *Products of Respiration at Different Periods of the Day.*—In the *Philosophical Magazine* for June last there is an account of some interesting experiments on this subject by Charles T. Coathupe, Esq.

"The periods selected for the experiments were,

From 8 a.m. to 9½ a.m. before breakfast.
9½ a.m. to 12 noon } during the digestion of breakfast and before
12 noon to 1 p.m. } "luncheon."
1 p.m. to 5½ p.m. before dinner.
5½ p.m. to 8¾ p.m. during the digestion of dinner.
8¾ p.m. to 12 night.

Habits of the operator.

At 9½ a.m. a slender breakfast.
1 p.m. to 2 p.m. "luncheon."
5½ p.m. a good dinner, with a pint of wine.
8½ p.m. one small cup of tea.
10 p.m. occasionally one glass of weak brandy and water.
12 to 1, bed time.

Age, 38 years. Stature, 5 feet 8 inches. Weight, about 140 pounds.
Average pulse, 60 to 62 per minute. Average respiration, 18 to 21 per minute.

The following are the results:

1st period	8 a.m. to	9½ a.m.	32	experiments	indicated	4.37
2d "	10 a.m. to	12 noon	15	"	"	3.90
3d "	12 noon to	1 p.m.	7	"	"	3.92
4th "	2 p.m. to	5½ p.m.	29	"	"	4.17
5th "	7 p.m. to	8½ p.m.	17	"	"	3.63
6th "	9 p.m. to	midnight	24	"	"	4.12

(per cent. of carb. acid gas.)

124 experiments, comprising 8 days.

"Hence we find the carbonic acid gas produced by respiration to be a variable quantity, that it is less during the period of active digestion, that it increases with increased abstinence from food, and it varies in the same individual at *similar* periods of *different* days. It also appeared during these experiments, that *excitement of any kind* (whether from the exhilarating stimulus of wine, or from the irritating annoyances which are wont to occur to most folks who are actively engaged,) caused a diminution of carbonic acid in the air respired, as compared with the ordinary average of that respired at a similar period of the day, and during a state of ordinary tranquillity. *The total daily average* indicated 4.09 per cent. of carbonic acid gas. The *maximum* observed at any single examination was 7.98 per cent. It was at 8 a.m. February 5th. The *minimum* observed at any single examination was 1.91 per cent. It was at 7½ p.m. February 7th."

These results differ widely from those of Messrs. Allen and Pepys, (Philos. Trans. 1809;) which Mr. C. ascribes, in part, to the experiments of Messrs. A. & P. being made either before breakfast or immediately before dinner, the periods

of the day in which Mr. C. has shown the respiration to contain its maximum quantity of carbonic acid gas, and, in part, to the increase in the carbonic acid gas eliminated by protracting in their experiments the respiratory process.

Mr. C. thinks, from his own observations, and from the experiments of others, that the following details, connected with this subject, may be faithfully relied on:—

"1. The average number of respirations made by most adult healthy individuals (varying from 17 to 23 per minute) may be stated as 20 per minute.

"2. The average bulk of air respired at each respiration made by such individuals (varying from 14 to 18 cubic inches) may be stated as 16 cubic inches.

"3. The average daily amount of carbonic acid gas found in the air respired by such individuals (varying at its extremes from 1.9 to 7.98 per cent.) may be stated as 4 per cent.

"Hence 460,800 cubic inches, or 266.66 cubic feet of air pass through the lungs of a healthy adult of ordinary stature in 24 hours, of which 10.666 cubic feet will be converted into carbonic acid gas, = 2386.27 grs. or 5.45 ounces avoirdupois, of carbon. This gives 99.6 grs. of carbon per hour, produced by the respiration of one human adult, or 124.328 pounds annually; and if we multiply this by 26½ millions (being the calculated population of Great Britain and Ireland for the year 1839) we have 147,070 tons of carbon as the annual product of the respiration of human beings at present existing within the circumscribed boundaries of Great Britain and Ireland.

"Hence also the *maximum quantity* of fresh atmospheric air that can possibly be required by a healthy adult during 24 hours, even supposing that no portion of the air respired could be again inspired, will not exceed 266.666 *cubic feet.*"

PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

8. *Perforation of the Stomach from Morbid Causes.*—This may be the result:—1st. Of simple ulceration; sometimes of an acute, but more commonly of a chronic character. 2. Of scirrhous ulceration. 3. Of a solution of the parietes, which is supposed to take place after death. Mr. Alfred S. Taylor has collected several cases illustrative of this remarkable disease, and thinks that they warrant the following conclusions:

"1. Perforation of the stomach seems to attack frequently young females from 18 to 23 years of age, generally unmarried. According to Andral, females who have been recently delivered, and those persons who have undergone severe operations, are likewise subject to it. The disease is not exclusively confined to females, or to a particular age. In the preceding observations, two cases of males, at 60, have been referred to.

"2. The preceding illness is commonly slight, rarely amounting to more than simple dyspepsia or slight irritation of the stomach after eating, with want of appetite. These symptoms may have existed for some weeks or months before; but have been altogether disregarded, and perhaps not even noticed by those, with whom the deceased associated. In other cases, the gastric disturbance is more severe: but as a medico-legal fact, it is important to remember, that these cases, with severe precursory symptoms, appear to constitute the smaller number. Dr. Abercrombie remarks, that 'this affection may run its course, almost to the latest period, without vomiting; and with scarcely any symptom, except the uneasiness which is produced by eating, and which subsides entirely a few hours after a meal.' Some have considered that a chlorotic state of the system might dispose young females to this affection; but there does not appear to be any sufficient ground for this opinion. It has happened, in some few instances, that chlorosis co-existed with this disease of the stomach; but in others, the females are described as having been stout and healthy. Besides, the same disease, with the same characters, occurs in male subjects at various

periods of life.—Evidence is then wanting to show that there is any connection between chlorosis and a tendency to this disease of the stomach.

"3. The individual is suddenly seized with the most severe pain in the abdomen, generally soon after a meal. It seems probable that this pain takes place at the moment the parietes of the stomach give way, and the contents of the organ are effused into the peritoneal cavity. The pain is of that excruciating kind, that the individual feels, unless it be removed, he cannot long survive. The attack coming on soon after a meal, may be, perhaps, dependent on the coats of the organ having become so thinned at the spot, that the slight action required for chymification may lead to the entire destruction of the thinned peritoneal tunic, which at this time must form the only partition between the cavity of the stomach and that of the peritoneum. At other times, the occurrence of the attack under these circumstances seems to be a pure coincidence; as where, for instance, in one of the cases, the perforation took place immediately after a cup of tea had been swallowed. We cannot be surprised, however, that poison should be suspected to exist in the food, when an individual, apparently in full health, is suddenly seized with such alarming symptoms; and therefore the greater caution is required in investigating the case. We ought to be well aware of all the particulars, before we countenance, in the least degree, the suspicion of poisoning: and among the diagnostic marks of the disease, we must not therefore forget the suddenness of the occurrence, and the intensity of the pain.

"4. In several of the cases reported, pain in the abdomen was accompanied or succeeded by pain between the shoulders. How far this deserves to be regarded as a pathognomic character, must depend on further observation: but its having been already so frequently met with, seems to render it something more than an incidental occurrence. The pain in the abdomen commonly undergoes a remission before death; and the mental faculties are usually clear, until the last.

"5. There is commonly vomiting: this, however, is sometimes absent; and in other instances very slight, the stomach simply rejecting what may be given as medicine or food. There is no diarrhœa: in general, the bowels are obstinately confined. The symptoms, after the first attack, when carefully examined, are those of peritonitis, not of irritant poisoning.

"6. Death takes place in from eighteen to thirty-six hours: in most of the cases mentioned, death occurred within twenty-four hours. The time at which the disease proves fatal, closely approximates to that at which a person dies in severe cases of arsenical poisoning.

"We may next direct our attention to the appearances met with in the dead body.

"1. On opening the abdomen, there are all the marks of severe peritonitis;—effusion of serum, with coagulable lymph; agglutination of the viscera; and extravasation of the contents of the stomach.

"2. An aperture in the stomach, of an oval or rounded form; its shape depending, in some degree, on the manner in which the parietes of the stomach are placed, to observe it. It is commonly from half an inch to an inch in diameter; and is situated in or near the lesser curvature, between the cardia and pylorus. This almost constant situation of the ulcerated aperture is a circumstance worthy of remark. It has not, as yet, so far as I am aware, received any explanation from pathologists. The edges of the aperture are smooth, soft, and fleshy-looking. The tunics appear to be thinned off, from within outwards; so that the mucous membrane is usually removed to a greater extent than the muscular coat; and this, than the peritoneal coat. The last is thinned off to a sharp edge, so that there is no appearance of laceration or ulceration. Near the circumference of the aperture, the coats of the stomach are thickened, sometimes hard, and even cartilaginous. This thickening may be disposed in a slight ring, or extend to some distance; and it may he confined to one part of the circumference, or extend all round. I have here described what I have actually seen; and although I do not presume to say that these are the invariable characters of the perforation, yet they agree closely with the descriptions given

by other and more experienced observers than myself. The hardening and thickening of the parietes of the stomach, around the aperture, seem to indicate what Andral long ago stated—that the ulceration is of a chronic character. The smoothness of the borders of the aperture renders it probable that the tunics are gradually thinned off by slow absorption; and that before the perforation is complete, the peritoneal coat is reduced to the thinnest stratum of membrane. Were it not so, we should expect to find the margin always fringed and lacerated;—an appearance which is not, I believe, very usually observed. The peritoneal coat does not seem to have undergone laceration or rupture, but to have become entirely removed. In some cases, where this fringed appearance has been met with, the circumstance may probably be explained by some mechanical cause having accelerated the rupture of the thinned membranes. Dr. Abercrombie thinks that the smoothness of the edges of the perforation is to be accounted for by supposing them to have cicatrized.

"When the aperture is the result of simple ulceration, then the appearances will be modified:—there is no thickening of the coats of the stomach, and marks of ulceration are apparent. The edge of the aperture may be very slightly or not at all raised above the surface of the surrounding membrane. Several cases of this kind have been adverted to, and are illustrated by the Museum preparations.

"Sometimes there are two openings in the stomach, near each other: or, instead of the second opening, there may be marks of ulceration scattered over the organ.

"3. The mucous membrane of the stomach is either pale, or presents slight patches of inflammatory redness over its surface: sometimes the margin of the ulcerated aperture is slightly reddened, the other parts of the stomach being healthy.—*Guy's Hospital Reports*, April, 1839.

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9. *Disorders of the Brain connected with Diseased Kidneys.*—It has long been familiar to the profession that suppression of urine is productive of disorder of the brain, and that mechanical obstruction to the flow of urine is followed by a similar result; and further, Dr. Bright has shown that there exists in many instances, a corresponding connection between disorder of the brain and the peculiar change of kidney to which his name has been bestowed. To Dr. William Addison, the merit is, however, we believe due, of being the first to make the attempt to specify with precision, and in detail, the several forms of cerebral disorder arising in connection with disease of the kidney, or to found upon the character of these cerebral affections, a means of diagnosis available in cases in which, from the absence of the ordinary symptoms of nephritis, of every form of dropsical effusion, and of an albuminous state of the urine, the diseased condition of the kidneys is liable to be altogether overlooked. The experience and observation of this pathologist have led him to believe that such cases are by no means of very rare occurrence, and that, in the absence of other indications, the renal disease may occasionally be recognised with tolerable certainty by the character of the cerebral disorder alone.

According to his experience, the "general character of cerebral affections connected with renal disease is marked by *a pale face, a quiet pulse, a contracted or undilated and obedient pupil, and the absence of paralysis:*—this general character, however, being somewhat modified, in certain cases, by circumstances attending the individual attack.

So far as Dr. A. has yet been able to observe, the individual forms of cerebral disorder connected with renal disease are the five following:—

"1. A more or less sudden attack of *quiet stupor;* which may be temporary and repeated; or permanent, ending in death.

"2. A sudden attack of a *peculiar modification of coma and stertor;* which may be temporary, or end in death.

"3. A sudden attack of *convulsions;* which may be temporary, or terminate in death.

"4. *A combination of the two latter;* consisting of a sudden attack of coma and stertor, accompanied by constant or intermitting convulsions.

"5. A state of *dulness of intellect, sluggishness of manner*, and *drowsiness*, often

preceded by *giddiness, dimness of sight*, and *pain in the head;* proceeding either to *coma* alone, or to *coma accompanied by convulsions;* the coma presenting the peculiar character already alluded to.

"With respect to the first-mentioned form of cerebral disorder connected with renal disease, that of quiet stupor, it is, in its most exquisite form, probably the least frequently met with: the face is pale, the pulse quiet, the pupil natural, or at least obedient to light; and although the patient may lie almost completely motionless, there is no paralysis; for, on attentively watching him for some time, he will be observed slightly to move all the extremities. By agitating him, and speaking loudly, he may sometimes be partially roused for a moment, but quickly relapses into stupor, as before; or it may not be possible to rouse him at all. There is little or no labour of respiration, no stertor, and no convulsions. Slight degrees of it occasionally precede and pass into the next or second form.

"This second form of cerebral affection is that of a sudden attack of coma with stertor, or in other words, apoplexy: it is, nevertheless, different from ordinary apoplexy: it is the serous apoplexy of authors, and presents the usual general characters of cerebral affection depending upon renal disease; for the face, instead of being flushed, is, in almost every instance, remarkably pale; the pulse, though sometimes small, and more rarely full, is remarkably quiet, or almost natural; the pupil, also, although occasionally dilated or contracted, is often remarkably natural in size, and obedient to light; and there is no paralysis. When the labour of respiration is very great, the general character is apt to be modified by an accelerated pulse, and occasionally by a slight flush of the countenance. The coma is for the most part complete, so that the patient cannot be roused to intelligence for a single moment. The stertor is very peculiar, and in a great measure characteristic of this form of cerebral affection connected with renal disease: it has not, by any means, in general, the deep, rough, guttural, or nasal sound of ordinary apoplexy: it is sometimes slightly of this kind; but much more commonly the stertor presents more of a hissing character, as if produced by the air, both in inspiration and in exspiration, striking against the hard palate or even against the lips of the patient, rather than against the velum and throat, as in ordinary apoplectic stertor: the act of respiration, too, is usually, from the first, much more hurried than is observed in the coma of ordinary apoplexy. The peculiar stertor coupled with the pale face has, in more instances than one, enabled me to pronounce with confidence the disease to be renal, without asking a single question, and in cases, too, in which no renal disease whatever had for a moment been suspected.

"The third form of cerebral disorder connected with renal disease is that of a sudden attack of convulsions. In this case, also, the countenance is, for the most part, remarkably pale, although, occasionally, slightly flushed at intervals: the pupil is often but little affected: in slight attacks of the kind, the pulse is sometimes singularly quiet; but when the convulsions are severe, and especially when there is such a degree of coma as to be attended with stertor, the heart often sympathizes, and the pulse becomes rapid, irregular, and jerking. This form of cerebral affection often passes into the fourth variety; or the cerebral affection shall take on the form of the fourth variety from the commencement; in the latter case, we have merely a combination of the second and third varieties—the coma, hurried breathing, stertor, and convulsions being so blended together, as often to have led to a dispute, whether the affection ought to be designated apoplexy or epilepsy. From what has been already stated, it may in general be very easily recognised as one of the common forms of cerebral disorder connected with renal disease.

"The fifth variety is that in which the cerebral disorder makes its approach in a more gradual and insidious manner, usually commencing with dulness of intellect, sluggishness of manner, and drowsiness, gradually proceeding to coma, and more or less stertor, with or without convulsions; these states being, at the same time, distinguished by the general indications already pointed out. This form of cerebral disorder appears to be that which most commonly supervenes

in the progress of the morbid change of kidney described by Dr. Bright; and is very frequently preceded by giddiness, dimness of sight, and pain in the head."

Dr. Addison thinks, that he has perceived a certain degree of relation between the actual condition of the kidney and the character of the cerebral affections.

"Of all the more serious affections of the brain arising in connection with renal disease, the mildest form," he observes, "appears to be that of a tendency to a state of quiet stupor, varying in degree from a mere torpidity of manner and sluggishness of intellect, to complete insensibility to all surrounding objects. Accordingly, I have found this form of cerebral disorder most frequently present in what may be regarded as the least formidable, or more temporary derangements of the kidney. The most exquisite example I ever saw, occurred in a man who at the time presented no dropsical symptom whatever, whose urine was not albuminous, and who made no complaint of pain or uneasiness in his loins. After death, the cortical part of the kidneys was found highly injected, of a deep-red or almost chocolate colour, and somewhat softened in its texture; in short, furnishing the strongest indications of a recent nephritic attack in a subdued form: it is also my belief, that the same state of things not unfrequently takes place, at an early period, in the progress of scarlatina: we observe an approach to a similar condition of brain in cases of fever, in which the bladder has been allowed to become over-distended; and most assuredly in cases of retention from stricture, and in cases of calculus in the kidney. In all these instances, the interruption or impediment to the urinary secretion may be said to be recent or incomplete; and hence, probably, the less degree of severity of the cerebral affection, and the less peril to the patient; for in such instances the symptoms very commonly pass away, and the patient recovers. When, however, the hurtful cause is of an originally nephritic character, the chance of recovery will be less than when the cause of obstruction happens to be merely mechanical and temporary.

"The next, in point of severity, of the cerebral affections connected with renal disease appears to be that of convulsions, with comparatively little stertor;—convulsions, however, which may prove speedily fatal; or which may be repeated an indefinite number of times, but from which the patient very often completely and permanently recovers. Accordingly, I have observed this form of more simple convulsions most frequently associated with what may fairly be regarded as a more exquisite and enduring form of renal disease than that just alluded to: I have observed it most frequently in cases of renal dropsy, subsequent to scarlatina; and in that form of renal dropsy supposed to arise from direct exposure to damp and cold, commonly known by the name of inflammatory dropsy. As the renal affection has already proceeded to induce dropsy, we cannot but regard it as more fixed and more formidable than in the cases described as being attended with more or less of quiet stupor: and accordingly, instead of merely a certain degree of this latter condition, we have convulsion which may indeed prove fatal, but from which, as already observed, the patient often completely and permanently recovers.

"As might have been expected, the most stubborn and intractable, as well as the most fatal cases of cerebral disorder connected with renal disease are unquestionably those found associated with the chronic and irremediable disorganization of kidney described and illustrated by Dr. Bright. It is nevertheless very far from being true, that every such case of renal disease is associated with cerebral disorder: on the contrary, in no very inconsiderable proportion of such cases, even till the period of their fatal termination, no cerebral derangement whatever, or, at least, none of sufficient intensity to attract particular attention, has been observed. Why cerebral symptoms should supervene in one case and not in another, or, in other words, what it is that determines their development in this and in other forms of renal disease, it is impossible, in the present state of our knowledge, to ascertain; for, although a simultaneous diminution of the urinary secretion may occasionally be observed, such a coincidence is by no means constant; the secretion, in some instances, continuing to flow in

a very fair quantity, even at the period of the most formidable attacks of cerebral disorder.

Considering the gravity, permanence, and irremediable nature of the disorganization in this form of renal disease, we might naturally expect that the cerebral disorder, when it does supervene, would, in its constancy, urgency, and irritability, be found in some measure to correspond;—and, accordingly, this has really appeared to me tō be the case; the patient suffering repeatedly, or more or less constantly, from heaviness, drowsiness, giddiness, or pain, or sense of tightness in the head, and being peculiarly liable to be suddenly seized with the most alarming and most fatal of all the forms of cerebral disorder occurring in connection with renal disease—profound coma and stertor, with or without convulsions.

I have purposely omitted to notice the morbid changes discovered in the brain after death: they are well known to be very often, in appearance at least, extremely slight; and do not, as far as we are yet aware, either in their kind, degree, or situation, offer any explanation of the form or severity of the cerebral disorder which proved the immediate cause of death.—*Ibid.*

MATERIA MEDICA AND GENERAL THERAPEUTICS.

10. *Employment of Sulphate of Quinine in the form of ointment for the cure of malignant intermittents.* Dr. Antonini, principal physician of the French Army in Africa, extols the efficacy of sulphate of quinine employed in the form of ointment in the cure of malignant intermittent fevers. The following is his formula for the preparation of this ointment:—Take of sulphate of quinine ℥j., alcohol 38° to 40° q. s. (about ℥ij.,) acid. sulphur. q. s. (about 80 drops) axung. ℥iv. It is essential that the solution in alcohol be complete and filtered, and that the mixture be made gradually and with care, otherwise the quinine returns to its original condition and its absorption does not take place. The usual quantity employed at one time is about half an ounce of the ointment, but this dose may be doubled in severe cases.

The mode of applying it is by frictions to the groins and it is also placed in the axilla.—*Journ. des Connaiss. Med. Chirurg.* Oct. 1838.

11. *Formulæ for Syrups of Copaiba.*—M. Emile Mouchon of Lyons gives the following formula for the preparation of a magnesian syrup of copaiba:—℞. Bals. Copaib. ℥iv; Magnes. Calc. gr. xxxij; Ess. Menth. pp. gtt. lxiv: Syrup. Simp. ℥lx. Dissolve the magnesia in the balsam of copaiba, and when the solution is complete, add the essence of mint and the simple syrup, triturating them together for a long time. This preparation M. Mouchon states has nearly the appearance of orgeat syrup, and with but little of the taste of the copaiba.

The following is the formula for the gummy syrup of copaiba of Dr. Puche. ℞. Bals. Copaib. ℥ij; Pulv. gum Arab. ℥ss; Aq. Puræ ℥iss; Ol. Menth. pp. gtt. xxxij. Syr. Simp. ℥xij. The balsam of copaiba is to be rubbed up with the water and gum arabic, then the essential oil, and finally the syrup is to be added. An ounce of this syrup contains a drachm of the copaiba. It is said to be better borne by the stomach than other preparations of copaiba.—*Journ. des Connaiss. Med.* Nov. 1838.

12. *On Remedial Powers of Croton Oil.* By G. G. Sigmond, M. D.—The remedial powers of croton oil have been made an object of the most elaborate experiments, both internally and externally. Andral, Constant, Dr. Short, Dr. Hutchinson, of Nottingham, have given us the result of close investigation, and the medical profession are generally convinced of its great efficacy. It may be rendered a mild and gentle purgative, and if given with proper precaution is as safe as any of the class with which we are in the habit of treating disease. It is best administered in the form of pill, in union with compound extract of

colocynth, with the extract of jalap, or with extract of rhubarb, to which a drop or two of the essential oil of cloves, of cinnamon, or of peppermint is added to disguise its odour, and to prevent any griping. In cases where a pill is difficult of deglutition a drop diffused in olive oil, or in a teaspoonful of syrup, may be given, but this is ordinarily succeeded by a sensation of burning in the mouth, along the œsophagus, and sometimes nausea; and even vomiting, but as soon as these have subsided, which is usually in a few minutes, no uncomfortable sensation occurs till about an hour, or an hour and a half afterwards; then there are slight colicky pains, and soon after evacutions take place; they at first come away rather suddenly; in many instances the stools are watery, with a slight tinge of yellow; at other times, and this frequently where the bowels have most determinedly refused to obey the suggestions of other active remedies, the most copious evacuations occur. A very singular and interesting case of tetanus is narrated by Mr. Lawrence in his lecture on tetanus, which is to be found in THE LANCET for the year 1829, in which aperients did not produce the expected effect, until the patient took a single drop of croton oil in a teaspoonful of light gruel, and within about an hour a most violent action was produced on the bowels; he discharged such a quantity of matter of various kinds from them, as altogether astonished him, and all those about him, they seemed to be quite at a loss to know how to describe the quantity. A case in which oxalic acid had been taken as a poison is related by Mr. Lovegrove of Upper Baker-street, in which two scruples of jalap and eight of calomel, an injection of castor oil, and of sulphate of magnesia, produced only trifling evacuation, but a drop of the croton with jalap procured several free motions. One of the great advantages attendant upon the administration of this, and of elaterium, where proper care has been taken is, that they leave no bad effect whatever behind them, and that on the following day the effects are quite over, the tongue wears its wonted appearance, there is no febrile rhythm about the pulse, no uneasiness about the abdomen, which bears pressure very well; indeed it is not unusual to find that the patient has a tranquil sleep during the night, with gentle perspiration, and the kidneys slightly called into increased action. It has been recommended to give croton oil to those who are habitually costive, and it has been stated on medical authority that it is of great use in keeping the bowels regularly open; a hint of this kind in a clinical lecture from a highly esteemed professor, was the reason that it was adopted in some of the quack pills of the day, but from the combination with gamboge, and probably the carelessness with which these ingredients were mixed together, a drastic cathartic was the result, which has proved very hurtful. In the only instances, two in number, in which the oil was recommended as a sort of domestic remedy, it was found after a time very capricious as to the effects it produced, sometimes acting with great vigour, at others without giving any relief. There are some persons who cannot take it at all, they are very sick and are rendered highly irritable, but there are few who are griped by it. It is very apt to produce eruptions on the surface of the body when taken internally, more particularly about the mouth. There, however, seem to be individuals who are excessively susceptible to papulous eruptions about the lower part of the face after taking opening medicine, which is commonly called "the going off of the fever." It is a subject well worthy attention, that even skin diseases of long standing have followed upon the use of some vegetable remedies which act upon the bowels, accompanied sometimes by an intolerable itching. The connection between the internal secretions and the external are, indeed, oftentimes strongly evinced, as is the case in the miserable state of itching which occurs after jaundice, and which sometimes is as the poet has said of love, "nullis medicabilis herbis" Croton oil has been strongly recommended in cholera, and the interesting case of Dr. Tegart, related by himself, of his sufferings from spasmodic cholera, and his recovery by the use of the oil, have made an impression on the profession; but although it led to trials of its efficacy we have no reason to look upon it in any very favourable light as a decided means of cure of the disease.

In cases where the due nervous impression is not made upon the intestinal

canal, as in apoplexy, epilepsy, tetanus, and mania, croton oil is a most important remedy, as well from its great intensity of power, as from the capability of giving it in such minute quantities. In very severe cases of painter's colic, Andral tried it with great success; indeed some cases have been known, of the most striking character, to yield in two or three days. Some doubts exist as to the utility of giving it in paralysis consequent upon this disease, or arising from unknown causes. Some inflammations have been treated by it, but they seem not to have been relieved by the remedy, with the exception of some cases of laryngitis; but even these were not benefitted until the external application was ordered. Many disorders that owe their aggravated character to loaded bowels, such as asthma, obstinate headache, apparent determination to the head, are relieved by a drop of croton oil, which then produces abundant liquid evacuations. A drop rubbed on the abdomen will produce purging, a slight smarting, and a redness of the skin taking place, but if a larger quantity be used this is followed by an eruption of small papulæ which gradually wear the appearance of pustules; some of these are surrounded by a red areola, and occasion no small degree of suffering; at the end of about thirty hours these pustules are fully developed, having a whitish opaque fluid; sometimes they are not completely formed until the fourth day, they remain then for a day or two unaltered, they then dry up and fall off; the pustules bear a strong resemblance to those of small pox. Advantage has been taken of this power to use the oil as a counter-irritant, and frictions have been made with a mixture consisting of ten drops to an ounce of the oil of sweet almonds. The first trials were made in the Hospital of La Pitie, and there paralysis, sciatica, affections of the digestive organs, received relief from these frictions. The appearances will vary much according to the number of drops, the time employed in rubbing them into the skin, and the parts of the body on which the frictions take place. It is upon the face, the scalp, the larynx, and the chest, that the influence is most strikingly exhibited; the extremities seem less acted upon; where the abdomen has been the seat of the action abundant evacuations have occasionally occurred; the armpits and the thighs exhibit often a high degree of rubescence. When the face and scalp have been thus treated, erysipelas has sometimes been observed, still no bad symptom has arisen. Active inflammation of the larynx has been successfully combatted at La Pitie by it, but the testimony of Dr. Hutchinson does not confirm the testimony in its favour, when the inflammation is of a chronic nature, and as he observes, no practitioner could place confidence to it alone in active laryngeal inflammation.

There is a valuable paper from the pen of Dr. Inglis, of Castle Douglas, in The Lancet, on the external application of croton oil in cynanche trachealis, in which he details facts exhibiting the good effects of this as a remedial agent in regular croup. There is one circumstance which you must bear in mind, in the employment of this counter-irritant, as well as tartar emetic, that you will very probably have a high degree of irritation produced at some part considerably distant from the seat of friction, and that the scrotum will more particularly be affected. The skin of the genitals is very apt to become in a very irritable state, and the itching is most distressing, and continues sometimes after all action of the croton has ceased; the smarting, the tingling, and the heat at bedtime are generally much increased; decoctions of elm bark, and of dulcamara allay these sensations, as does creosote, but then they again come on, and sometimes more pertinaciously than ever.—*Lancet*, 21st July, 1838.

SPECIAL PATHOLOGY, AND SPECIAL THERAPEUTICS.

13. *Puerperal Fever.*—The term Puerperal, or Childbed Fever, although not scientific or consonant to the nomenclature of other febrile diseases, cannot in the opinion of Professor Osiander, be well replaced by any other which has been proposed, such as *peritonitis puerperalis*, *metro-peritonitis*, &c. The perito-

neum and the uterus may be quite free from inflammation, and yet the patient may die from puerperal fever.

Often the disease commences as an attack of meningitis, or of erysipelas, or of rheumatic swelling of the joints, &c. and, under any of these forms, it speedily proves as dangerous and alarming as when the uterus and peritoneum are primarily affected. For this reason, Professor Osiander prefers to retain the old generic term of Puerperal fever, and of distinguishing its various species or forms in the following manner, according to the seat and character of the predominant local mischief.

1. Puerperal fever with peritonitis.
2. .. .. .. hysteritis and peritonitis.
3. .. .. .. meningitis.
4. .. .. .. pneumonia.
5. .. .. .. miliary fever.
6. .. .. .. erysipelas.
7. .. .. .. arthritic swelling.
8. .. .. .. milk abscess.
9. .. .. .. gangrenous inflammation of the external and internal generative organs, (metritis gangrenosa.)
10. .. .. .. typhus fever.

The last-mentioned variety includes, according to this tabular arrangement, all those cases of childbed fever, in which there is a suppurative inflammation of the uterine and adjacent veins. It is by far the most formidable variety of the disease, and is that which usually prevails epidemically at certain seasons, more especially in large institutions. To apply the term *peritonitis*, or *metro-peritonitis* to it, is not only quite incorrect—seeing that often no genuine traces of peritoneal inflammation are discoverable on dissection—but is likewise most seriously hurtful, in consequence of the erroneous treatment which will necessarily be recommended.

An impure condition of the atmosphere—attributable very often to an overcrowded state of the wards in a lying-in establishment—is unquestionably one of the most frequent causes of puerperal typhus. That this form of the disease is of a miasmatic origin, and is communicable from one patient to another, cannot be well disputed; and it therefore becomes the duty of the physician and nurse to use all precautionary means to prevent the dissemination of the miasm, by changing their own garments frequently, washing their hands, &c. as well as by the employment of fumigations and other well-known means.

Much may be done in the way of *prophylaxis* of this disease, but very little in the *treatment* of it, when it is once fairly established. There is perhaps no form of fever so little under the control of medicine as puerperal fever; it is only in the precursory and very early stages of the disease that the healing art can be of any avail.

According to the researches of Osiander, inflammation and suppuration of the uterine veins is by no means so generally present, as some authors might lead us to suppose.

Inflammation of the lymphatic vessels seems to be of much more frequent occurrence when the peritoneum has been inflamed, than phlebitis of the uterine veins.

The latter is, however, by far, the most serious affection of the two. Abscesses of the liver, of the lungs, and of the muscles and joints, are not uncommon sequelæ of uterine phlebitis, when the patient has survived the early stage of the disease.

The following few cases illustrate some of the most generally observed characters of puerperal typhus.

Case 1.—*Puerperal Typhus, fatal in 24 hours, with Peritonitis, and Suppuration in the Uterine Lymphatics.*

A woman, 27 years of age, was delivered in the Maternité Hospital, at a time when childbed fever was very prevalent. For three days subsequently

she went on very well; but, on the fourth day, she began to complain of pain in the hypogastric region. The pulse, at this time, was frequent, but not full or hard; and the patient was troubled with diarrhœa and tendency to vomiting. *An unfavourable prognosis was formed, in consequence of the great frequency of the pulse.* Thirty leeches were applied to the abdomen, and an ipecacuan emetic was administered; an ounce of mercurial ointment was rubbed in upon the inside of the thighs, and a sinapised hip-bath was used.

In the evening, the abdominal pain was less severe, but the pulse was still rapid and small: the diarrhœa and nausea continued.

Next day, the abdomen was tympanitic, and very painful; the breathing was hurried and uneasy; but there was no delirium, or mental confusion. Sinapisms and friction with the mercurial ointment were continued; but the patient died in the course of the night.

Dissection.—The abdomen was found to contain a quantity of muddy serum, blended with numerous flocculi of albuminous matter—the result, no doubt, of peritoneal inflammation. Beneath the peritoneum, in the left iliac fossa, there was a purulent infiltration into the cellular tissue: this extended upwards as high as the kidney. The lymphatic vessels of the broad ligaments were filled with pus; but the uterine veins seemed to be entirely sound.

Case 2.—*Puerperal Typhus, with Suppurative Inflammation, in the Sub-peritoneal Cellular Substance, and in the Uterine Lymphatics.*

A woman was seized, on the second evening after a fortunate delivery, with shivering and abdominal pain. Upwards of fifty leeches were applied on the hypogastrium; and fomentations and other means were used. But on the following day the patient was moribund, and she died in the course of the evening: the abdomen had become exceedingly inflated.

Dissection.—The abdominal cavity contained some reddish-coloured serum; and between the uterus and rectum a small quantity of consistent pus was found. In the region of the cæcum some purulent matter existed behind the peritoneum. The lymphatic vessels, which accompany the spermatic veins, were full of matter.

Remark.—We are inclined to believe that the inflammation must have, in this case, commenced previously to delivery.

Case 3.—*Puerperal Typhus, fatal in fifteen hours after Delivery; Peritonitis and Suppuration of the Lymphatics; softening and Melanosis of the Lungs.*

A young woman was admitted, in the eighth month of her pregnancy, into the Lying-in Hospital on the 17th of June, at a time when the childbed fever was very prevalent. On the third day afterwards, she experienced abdominal pain, and feverish excitement.

On the 25th, she was delivered of a dead child; and, on the following day, she died.

Dissection.—The abdomen contained a large quantity of white matter; and the lymphatic vessels on the sides of the uterus were filled with pus. The inferior lobe of the left lung was softened, and of a black colour.

Case 4.—*Puerperal Typhus, fatal in 50 hours; Peritonitis, and Suppuration of the Lymphatics.*

A middle-aged woman was seized, on the evening after her confinement, with shivering. Next morning, she had abdominal pains; the pulse was exceedingly quickened, and very easily compressed; there was slight diarrhœa; the lochia were not much affected. *Osiander* formed a very unfavourable prognosis of the case, in consequence of the extreme rapidity and feebleness of the pulse: he had not seen one patient recover in whom this state of the circulation existed. As he had found evil only to result from sanguineous depletion in any form, and from the use of emetics, as recommended by some physicians, he contented himself with recommending the application of poultices to the abdomen, and of camphor ointment around the pubes and to the thighs, and of warm injections into the vagina. By the use of these means, the patient was somewhat easier towards evening. Next day the abdominal pain was gone, and the pulse was

not quite so rapid: five grains of ipecacuan were ordered to be given every four or five hours; and the warm-baths were to be continued.

But soon afterwards she became gradually worse, and she died 68 hours after delivery, and about 50 after the commencement of the feverish symptoms.

Dissection.—The abdomen contained some purulent serosity; and pus was found in the uterine lymphatics, in the Fallopian tubes, and in the cellular tissue of the pelvis.

General Reflections.—Professor Osiander closes his memoir with a few remarks on the probable exciting, or predisposing causes of childbed fever. He insists particularly on the pernicious influence of cold air on women in the puerperal state; and he attributes the lamentable frequency and fatality of the disease, in the large lying-in institutions in Paris and Vienna, to the continual ventilation of the wards.

He mentions, that whereas it is almost constantly more or less prevalent in these hospitals, it is comparatively rare in the Maternité at Gottingen, whose wards are small, never crowded, and uniformly kept in a state of pleasant warmth. He is therefore of opinion that, if in lying-in establishments more attention was paid to the warming of the wards, and to avoid the crowding of many patients together, the epidemics of puerperal fever would be much less frequent and fatal.

He has never seen any good effects from the administration of calomel and active purgatives in this disease. He recommends the use of saline and tonic medicines; and he mentions that the application of large mustard poultices to the mammæ—so as to excite a powerful revulsion from the uterus—has in several cases seemed to act more beneficially than any other means, which he has employed.—*Med. Chirurg. Rev.* April, 1839, from *Zeitschrift fur die ges. Med.*

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14. *Belladonna Plaster in Nervous Palpitations, Irritable Bladder, &c.*—Dr. Simpson, of the York County Hospital, uses a belladonna plaster over the region of the heart, to quiet violent palpitation; and Dr. Laycock says that he has found the application very successful, especially in nervous palpitation. Dr. L. states also that the belladonna plaster will relieve irritable bladder and neuralgia or irritability of the rectum. The plaster should be made with the pure extract spread on lint or leather, and applied moist to the sacrum or perineum. Dr. L. thinks that an opiate plaster made with powdered opium and soap cerate, is more efficacious than belladonna, especially in irritable bladder; it will, sometimes, enable a person to rest undisturbed during a whole night.—*Lond. Med. Gaz.* 16th March, 1838.

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15. *External Application of Colchicum in Rheumatism.*—Dr. Thomas Laycock states that he has been led, by some theoretical speculations, to try a liniment composed of equal parts of the tincture of the root of colchicum and of the tincture of camphor, in rheumatism, and the result was exceedingly satisfactory. He has found the colchicum alone equally successful. The only notice, he observes, that he finds of this method of using colchicum is in the Dict. de Mat. Med. of Merat and De Lens, ii. 361. A Dr. Gumpert is there quoted (from Rev. Méd. i. 140), as having used the tincture of seeds of colchicum as a local application in gout and rheumatism very successfully. The particular instance of a clergyman is mentioned, who was confined to his bed for a month or six weeks with the latter, and who was able to leave it on the fifth day after frictions with the tincture of the seeds. From theoretical considerations, Dr. Laycock thinks it will be found a useful application in gout as well as rheumatism. Those who have corns, which are painful during atmospheric changes, will Dr. L. says probably find the twinges of those delicate pedal barometers alleviated by the topical use of some preparation of colchicum. *Bursal* rheumatism will, of course, be most relieved by its use.—*Lond. Med. Gaz.* 16 March, 1839.

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16. *Lytta in Vesical Paralysis.* By Thomas Laycock.—I believe it is well known that the tincture and powder of the *meloe vesicatoria*, or cantharis, is very

useful in atony or paralysis of the bladder, especially of hysterical and aged people. I have found, however, that an *emplastrum lyttæ* applied to the loins is equally efficacious, and much more manageable. A female, confined to bed in the last stage of laryngeal phthisis, could not pass urine without raising herself upon her knees. She was at last too weak for the effort, and it became a question how the difficulty could be surmounted. I recommended an emplastrum lyttæ to be applied to the loins or sacrum, until she felt able to empty the bladder in the recumbent posture. In half an hour after the application she succeeded. She lived for three or four weeks subsequently, and the plaster was in almost daily use until she died. In most instances from one to two hours elapse before the desired effect is produced; in hysterical retention about the latter period. The plaster is useful in other cases. A man came to the hospital with a catheter in his bladder; he had not made water without it for three weeks. It was removed, and an emplastrum lyttæ applied to the sacrum for three or four hours; he never wanted the catheter again, and went away in a week quite well. I am not aware that this method of using the fly is mentioned by authors.—*Ibid.*

17. *Case of Paralysis of the first and second Branches of the Sensitive Root of the fifth pair of Nerves, with remarks.* By D. J. Corrigan, M. D., of Dublin. Catharine Goulding, æt. 23, was admitted into the Jervis street Hospital, Dublin, 24th October, 1838. Six months before this date, she fell on her temple against an iron grate, and at the time felt a very acute pain in the part, with numbness in the left side of the head and face. The pain having continued, and her sight in the left eye having grown dim, she took some purgative medicine, and after this she continued pretty well until about two months before admission, when the pain of the temple returned, followed by almost total loss of vision in left eye. On admission, almost total loss of sight in left eye, with a very sluggish iris, a clear and a dilated pupil. She suffered from thirst, loss of appetite, and debility. Her bowels were confined; her tongue was white. The treatment adopted was leeching the temples, blisters to the back of the neck, and mercury pushed to active salivation These measures greatly alleviated her symptoms, but on the 8th November there was a return of the pain in the temple, with dimness of vision, and followed on the succeeding days by tingling and numbness in the left side of the head, and extending down the face. A blister to the side of the head alleviated these symptoms, and the sight of the left eye continued to improve, but the numbness of face increased; and on the 10th December the following is the report of her state:—

She is slightly salivated (she had been using gr. iij. of pilula hydrargyri ter in die). Over the left side of the scalp and in the ear there is undiminished sensibility, as also in all the portion of the cheek, which is below a line drawn from the angle of the mouth to the lobe of the ear. But in the left half of the forehead, the left eyebrow, around the left eye, and in the anterior part of the left cheek, and in the left half of the nose within and without, and in the left half of the upper lip, there is total loss of sensation; so that in any of those parts the skin may be pricked with a needle without her being conscious of it. In the left half of the upper gum there is also total loss of sensation. In the lower gum the sensation is duller than natural. There is no loss of muscular power in the jaw or eyelid, nor any appearance of paralysis either when the face is at rest or when she speaks. In the left temple there was a circumscribed spot, which was very painful on pressure, and which, when pressed upon, gave her a shooting pain down the cheek. Over this spot she was leeched every second day. Her sight improved, the pupil became more active, but the other symptoms remained as before, with the addition that on the 21st December she complained of inability to move the jaw freely on the left side. There is, however, no want of power in the left eyelid. The repeated leeching has diminished the soreness of the temple and improved the sight very much, and she is now rubbing the scalp with tartarized antimony and mercurial ointment, and taking internally 10 grs. of hyd. c. magnesia ter in die.

This case is a valuable addition to our knowledge of the affections of the

nerves of the face, which, until late years, was little better than a web of confusion. To Sir Charles Bell we owe the first clue that has led us out of the labyrinth; and the case before us, of Goulding, deserves a place among those to which we may refer as establishing the sureness of the foundation on which our opinions of the functions of the nerves of the face now rest.

To understand the nature of Goulding's case, it is necessary to recal your attention to the anatomy of the fifth pair of nerves. There is in this case total loss of sensibility of the left side of the forehead, of the left side of the nose, of the left side of the palate, and of the gum of the left half of the upper-jaw, and of the upper-jaw, and of the cheek, as low as the angle of the mouth; while, below a line extending from the angle of the mouth to the lobe of the ear on the same cheek, the sensibility is perfect. There is not the slightest loss of muscular power in any part of the cheek; she has full power over the eyelid, angle of the mouth, buccinator muscles, &c., whether in chewing, sneezing, laughing, &c.

The anatomy of the fifth pair of nerves, will now explain to us this case, which is one of those beautiful instances in which anatomy, physiology, and pathology, mutually throw light on each other. The fifth pair of nerves consist, you will recollect, of two roots; one the sensitive—the other the motor root. The sensitive root, after having formed upon it the Casserian ganglion within the skull, sends off from this ganglion three branches; the first the ophthalmic branch, which is distributed to the parts within the orbit, and which sends off the supra-orbital branches to the skin and integuments of the forehead, with a brush of smaller twigs which are distributed over the inner canthus of the eye and the root of the nose, while the nasal branch is spread over the alæ and tip of the nose. The second branch, the superior maxillary, given off from the Casserian ganglion, leaves the skull through the foramen rotundum, and sends along the infra-orbital canal, in the floor of the orbit—the infra-orbital branch, which passing out to the cheek through the infra-orbital foramen, is then distributed to the anterior part of the cheek to the ala nasi, and twigs of it descend as low as the external angle of the mouth; where they meet those coming up from the foramen mentale. Other twigs of this second branch, the superior maxillary, are distributed to the palate, the gum of the upper jaw, and the interior of the nose.

I have now to turn your attention to the third branch of this sensitive root of the fifth. This branch, setting out also from the Casserian ganglion, leaves the skull by the foramen ovale, in company with the motor root of the fifth pair. This motor root, which has lain in the skull behind the Casserian ganglion, has as yet formed no junction with any portion of the sensific root; but having passed out through the foramen ovale, in company with the third branch, it then, in the pterygoid fossa, becomes intimately interwoven with this third branch of the sensific root, and the compound nerve, thus formed, is the inferior maxillary nerve. It is obvious that, according to this account of the anatomy of the fifth pair of nerves, the ophthalmic and superior maxillary nerves being given off by the sensific root of the fifth before any connection has as yet taken place between the sensific root and the motor root, the ophthalmic and superior maxillary nerves must be merely sensific nerves; and that in the event of disease producing paralysis of these nerves, the effect on the parts supplied by them ought to be loss of sensibility alone; and that, as these nerves cannot confer motive power, muscular action should not be disturbed by paralysis of them; and thus exactly we have it in the case before us. There is loss of sensibility in all the parts of the face and interior of the mouth, supplied by those branches, but no loss of muscular power. Thus anatomy and physiology explain to us those symptoms which otherwise would be inexplicable, and again, pathology, more beautifully than a thousand experiments, confirms the accuracy of our anatomical observations, and the truth of our physiology of this nerve.

Sensation, we have seen, is perfect along the lower jaw below a line drawn from the angle of the mouth towards the lobe of the ear. The parts below this line, the skin of the cheek, the chin, and the gum of the lower jaw, are supplied

by the third branch of the fifth, namely, the inferior maxillary nerve. Now, does the preservation of sensibility in the lower part of the cheek, while it is lost in the upper part—or, in other words, does the continuance of function in the third branch of the sensitive root of the fifth, while it is lost in the first and second branch, lead to any practical result in diagnosis and prognosis? With the light of anatomy it does, and to a very important one. It tells us that the disease which has deprived the first and second branches of the fifth of their function of sensibility is not disease of the brain, nor, probably, has it its seat within the cavity of the skull; for if the diseased action attacked the nerve previously to its forming the Casserian ganglion from which all three branches take their origin, then it would be nearly impossible that the function of the third or inferior maxillary branch should not have been equally destroyed with the functions of the other two. Were the disease within the skull, it is also most probable that the motor root of the fifth, which in part of its course lies in very close relation to the sensific root, should suffer equally. But as the motor trunk and the third branch of the sensific trunk are not injured, we are justified in concluding that the cause of the paralysis of sensibility of the first and second branches has its seat external to the cavity of the skull, and the diagnosis thus made leads of course to the more favourable prognosis. Thus, anatomy and physiology here lead us both to diagnosis and prognosis. With this instance before you, to show you the value of the observation, let me entreat of you never to lay aside anatomy or physiology in studying practical medicine. How different now is our interest in this case, and how superior our knowledge of it, when we have thus taught ourselves that even in disease the symptoms which present themselves are not the result of mere chance, but are in strict accordance with the laws of healthy action! If there were no other result from this analysis of the symptoms of this case than the attractive investigation of some of the functions of the nervous system, and the conformation of our physiological knowledge, this alone should make us study the symptoms with enthusiastic interest; but when we find that on this analysis depends our knowledge of the nature of the disease, its study then becomes a duty. There is, I am sorry to say, a growing tendency to substitute what is called observation at the bed side for anatomical and physiological investigations of structure and symptoms. Such a doctrine is very acceptable to the ignorant empiric and the indolent student; but to expect to attain sound knowledge by such a course, would be as reasonable as it would be in a mechanist to expect that he could ever attain a knowledge of the derangements of a machine, without bringing to his assistance a knowledge of its structure and its powers.

If we now turn our attention to the inferior maxillary nerve, the third branch of the sixth, and to the portio dura of the seventh, we shall find in the physiology of these nerves an explanation of some curious forms of nervous affections of the face, and to which we find almost nothing analogous in any other part of the body.

The first is that in which the seventh or portia dura alone is paralyzed.

I saw a lady some time since, whose features were undisturbed and free from distortion when at rest, but when she laughed or smiled, the muscles on the right side alone acted, while the left side of the face remained perfectly passive, thus giving to the countenance the hideous expression of half of a living and of a dead face being joined together. In such a case as this the paralysis is confined to the seventh nerve, the motor branch of the fifth being unaffected. While the face is at rest, the motor branches of the fifth at each side neutralize each other, and there is no distortion; but on the seventh or portio dura being called into action as a nerve of expression, the nerve of one side alone acts, and thus this singular form of paralysis is produced.

In contrast with this may be placed a case of paralysis of the third branch of the fifth, the inferior maxillary nerve. The case is from Sir C. Bell's work on the Nervous System.

A man affected with hemiplegia was paralytic of the right side of the face, which was also insensible on being pricked with a needle.

When at rest, the right side of the mouth and the right cheek hung down, and the saliva constantly flowed from it. But when he was made to sneeze, to laugh, or to whistle, the distortion disappeared, and both sides of the face acted equally. Thus these cases are contrasted with one another. In paralysis of the portio dura alone, *there is no paralysis when the muscles of the face are at rest*, but it becomes most disagreeably evident by distortion on giving expression to the face. *In paralysis of the third branch of the fifth there is paralysis of the face when at rest;* but when a respiratory expression calls the seventh into action, the paralysis for the time being disappears.

The most common form of paralysis of the face is when both the third branch of the fifth and the portio dura are simultaneously affected, so that there is paralysis both when the features of the face are at rest, and in the expression of laughing, sneezing, &c. Such is the following case:—

Michael Keefe, admitted into this hospital December 3. About ten days before, he felt his upper lip swelled, and next day perceived that, in attempting to masticate, he could not turn the morsel in the right side of his mouth. On admission his mouth was drawn to the left side; he was unable to close the eyelid of the right eye; he could not whistle, and when he laughed the left side of the face alone acted. In this case both the seventh and the third branch of the fifth of the right side were paralyzed, for there was in the case a combination of the symptoms of the two former cases. There was inability to masticate, and there was distortion of the face when at rest, dependent on paralysis of the third branch of the fifth; and there was also distortion of the face in expression, indicating paralysis of the portio dura.

We have thus the following form of local paralysis of the face:—

1st. Paralysis of sensibility, as in the case now in hospital, the muscular power being unaffected—dependent on disease of first and second branch of the sensific root of the fifth pair of nerves.

2d. Paralysis, not visible when the features are at rest, but most strongly marked when any respiratory expression, such as sneezing, laughing, &c. is attempted—dependent on disease of portio dura.

3d. Paralysis, persistent when the face is at rest, but temporarily suspended when any respiratory expression is attempted—dependent on disease of the third, or compound moto-sensific branch of the fifth.

4th. Paralysis of the face both at rest and in motion, in which both the portio dura and third branch of the fifth are implicated.

For the experiments and some of the cases on which I have grounded these observations, I must refer you to Sir Charles Bell's work on the Nerves. There is, however, in some parts of that work an obscurity, and occasionally an apparent contradiction, which may render its perusal difficult. You will obviate the difficulty by consulting Dr. O'Beirne's analytical correction of Sir Charles Bell's work. It is published as an appendix to Dr. O'Beirne's work on Defæcation, and it will well repay you for a perusal. To return to our case in hospital. I have already given my reasons, founded on the immunity of the inferior maxillary nerve, for thinking that in this case the disease is not within the cavity of the cranium, or at least between the Casserian ganglion and the origin of the nerve. It is probable that the injury which this patient received produced periostitis of a subacute or chronic form, and that this, creeping along the temporal surface of the sphenoid bone, has also spread through the sphenomaxillary fissure to the lining membrane of the orbit, and has then involved the first and second branches of the fifth. This view is strengthened by the circumstance of there being still a small space in the upper part of the temporal hollow which is painful under pressure. I shall therefore, for some time longer, continue the same line of treatment under which he at present is, viz. repeated local blood letting and blistering, and the exhibition of a mild course of mercury. The head symptoms, the vertigo, &c. have ceased, the motion of the pupil has become natural, and the sight is much improved, so that we have to contend with only the local tenderness in the temple, and the loss of sensibility of the first and second branches of the fifth.

P. S.—Since the above was delivered, numbness, accompanied with loss of power, began to extend to the lower jaw, showing that the diseased action was beginning to implicate the third, or compound branch of the fifth. The whole head was then rubbed over with antimoniated mercurial ointment and iodine; the amendment was rapid, and she soon after left the hospital with scarcely a trace of the disease.—*London Medical Gazette*, 30th March, 1839.

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18. *Pathology and Treatment of Phlegmasia Dolens.*—By John Burne, M. D. (Extracted from Clinical Lecture delivered at the Westminster Hospital.) In the case of Mary Wiggins, there took place about the fifteenth day of her illness, while she was lying on the back in a state of the greatest prostration and danger, a more or less hard though œdematous swelling of the whole of the left lower extremity from the groin downwards, the swollen limb being white, varied, however, with numerous minute veins in the skin, while none such were apparent in the other limb. The whole of the limb affected was rather tender to the touch, and painful; but the chief pain and tenderness were seated in the groin and antero-internal region of the thigh, where could be felt the femoral vein like a hard cord or bougie, the size of the little finger. The femoral artery pulsated normally on the outer side of this cord-like vein.

Here was a well-defined example of phlegmasia dolens, such as occurs in childbed women. It was distressing to find this disease showing itself at a moment when the exhausted powers of the patient were altogether unequal to cope with any fresh obstacle to recovery, and when, consequently, one could not but expect that it would turn the balance fatally against her.

On account of her prostrate condition it was impossible to have recourse to the local abstraction of blood by leeches—the usual treatment of phlegmasia dolens, nor did any but a soothing treatment suggest itself. While considering this point, Mr. Hale Thomson joined us in the ward, and remarked that he had found benefit in a similar case by suspending the limb from the top of the bedstead, so as to allow the venous circulation of the extremity to be favoured by gravity. The suggestion I adopted at once, and attempts were made to suspend the limb; but the position was insupportable, and the foot and leg, therefore, were merely elevated a few inches on pillows. The effect of even this elevation was, however, most satisfactory. The pain and also the œdematous swelling began to subside forthwith, and the amendment continued uninterruptedly from this period; the cord-like state of the femoral vein diminishing, and the œdema passing away from day to day, till at length complete recovery was effected.

It is only within a very recent period that the pathology of phlegmasia dolens has been understood, it having been established by Dr. David Davis, in an able essay read before the Royal Medical and Chirurgical Society in May, 1823, and published in the twelfth volume of the Society's Transactions.

Prior to the discovery of Dr. Davis four theories of the cause and nature of this affection were entertained:—

1. By Mauriceau. "A reflux, determined to those parts of humours, which ought to be evacuated by the lochia:" Also, by Mesnard. "Suppression of the lochia, producing an over-fulness of the blood vessels, and a consequent arrest and coagulation of lymph in the parts affected."

2. By Puzos. "The celebrated doctrine of metastasis of milk—*dépôts de lait.*"

3. By White and Trye. "Obstructions or other morbid states of the lymyphatic organs of the parts affected."

4. By Dr. Hull. "The proximate cause consists in inflammatory affection, producing suddenly a considerable effusion of serum and coagulated lymph from the exhalents into the cellular membrane of the limb. The seat of the inflammation I believe to be in the muscles, cellular membrane, and inferior surface of the cutis. In some cases, perhaps, the inflammation may be communicated from these parts to the large blood-vessels, nerves, and the lymphatic vessels and glands imbedded in them."

All these conjectures—they scarcely deserve the name of theories—were disproved by the pathological investigations of Dr. Davis, who discovered that

the large veins of limbs affected with phlegmasia dolens were obstructed by coagula, which adhered to the sides of the veins, and inferred from these appearances, and from the symptoms during life, that inflammation of the veins and consequent obstruction was the proximate cause of the phlegmasia dolens. The white œdematous swelling is merely a dropsical state of the limb resulting from the venous obstruction, the usual cause of local or partial dropsy or œdema.

The cases of Fearn and Wiggins—both true examples of phlegmasia dolens—were characterized by the pain and tenderness in the course of the large veins in the groin—by the cord-like feel of these veins—by the soreness and white œdematous swelling of the whole extremity—symptoms which left no doubt of there being inflammation and obstruction of the veins. In the case of Fearn, who died, we had an opportunity of dissecting the affected limb; and the preparation now before you exhibits the vein and artery taken from it. You here see the common and internal iliac and femoral vein, filled with red coagulum adherent to the sides of the veins, so as to block up the channels and obstruct the circulation of blood through them; thus agreeing with and confirming the dissections and opinions of Dr. Davis, viz: that inflammation and obstruction of the iliac veins and their contributory branches are the cause of phlegmasia dolens.

So far the pathology of phlegmasia dolens may be considered as established; but there is one very important point not yet made out, viz: the *cause of the inflammation of the veins.*

How is it, and why is it, that these particular veins, the iliacs, become affected with inflammation? What excites or induces inflammation in them especially? The cases of Fearn and Wiggins, under consideration, will, I think, afford a satisfactory answer and explanation.

The phlegmasia dolens in both these cases occurred under exactly similar circumstances, both patients being reduced to an extreme degree of prostration, and both lying upon the back, with the limbs outstretched and motionless, which appeared to me so far remarkable as to suggest the notion that both may have depended on a similar cause, and that this possibly was a stagnation of blood in these veins resulting from the languid powers of the venous circulation, producing first congestion, then inflammation, obstruction, and œdema—symptoms collectively constituting phlegmasia dolens.

Again, it struck me as remarkable that, in both these patients, the same limb—the left—was the seat of the affection. This led me to inquire how far any anatomical relations or peculiarities of the iliac veins of the left side, as compared with the right, might exist normally, and aid in retarding the circulation, in the very weak state of these patients. In this inquiry, it certainly does appear that the normal situations of the aorta and cava, and of the iliac arteries and veins, is such as to render the circulation in the left iliac less free than in the right; and although, with this natural arrangement, the circulation of the left iliac may be perfect under the ordinary circumstances of health and exercise, yet, when the powers of life have been reduced to the lowest degree, and when there is an entire absence of all muscular motion, a great aid to the circulation of the blood in these veins, I can then understand that the slight greater difficulty in the circulation of the left iliac might so impede the circulation in this vein as to be the cause of congestion; the congestion, the cause of irritation; the irritation, of inflammation; the inflammation, of complete obstruction; the complete obstruction, of the œdema.

The anatomical relations above alluded to depend particularly on the situation of the right common iliac artery and the left common iliac vein, which cross each other like the letter X.

You will remember that the vena cava inferior lies on the right lateral part of the bodies of the lumbar vertebræ, and that consequently the left common iliac vein, in order to reach the cava, has to traverse the body of the last lumbar vertebra, and in this course passes directly under the right common iliac artery; for the aorta being situated on the left lateral part of the bodies of the lumbar vertebræ, the right common iliac has also to traverse the body of the last lumbar vertebra, in order to reach its destination, the right extremity; and in this course

passes anterior to the left common iliac vein: the vein and artery crossing each other like the letter X, on the body of the vertebra. In this arrangement, the left common iliac vein, as it traverses the vertebra, is subject to pressure from the right common iliac artery, and to counter-pressure from the unyielding vertebra; and when it is remembered that the arteries during life are always full, distended, and cylindrical, it is not unreasonable to believe that the vein, placed between the artery on one hand, and the vertebra on the other, and traversed at an acute angle by the artery, is subjected to more or less pressure, and the current of blood along the vein more or less impeded; an impediment, however, of no moment, except when the powers of the body and of the circulation have been reduced to the lowest ebb, when every trivial difficulty or obstacle proves insurmountable. Moreover, the position in which the patients Fearn and Wiggins lay—namely, on the back, with the legs straight and extended—would, by putting the artery on the stretch, determine pressure on the vein; for the arteries taking the shortest course, and being elastic, longitudinally as well as transversely, are stretched when the limbs are extended, and relaxed where they are bent.

This view is borne out by the treatment which, in the case of Wiggins, was found to be efficacious—namely, the elevation of the limb; which had the double effect of favouring the return of blood by giving the venous circulation the advantage of gravity, and of relaxing the iliac artery, and so removing whatever impediment may have been offered by it.

Now, gentlemen, having concluded, from the comtemplation of these two cases, that the anatomical relations of the large blood-vessels of the left extremity were in part the cause of the phlegmasia dolens, and were the reason why the disease took place in the left rather than in the right extremity, I was curious to ascertain how far the cases recorded by others agreed in this respect or otherwise; for if the above opinion is well-founded, the phlegmasia dolens ought to occur in the left rather than in the right extremity: this I find to be exactly the case. For example,

One case, recorded by Zinn, occurred in the right only.

Four cases are recorded by Dr. Davis, and in all of these the left was the extremity affected.

Five cases are recorded by Dr. Lee, in all of which the left extremity was affected. In one, the right was affected also.

Three cases are recorded by Velpeau, in all of which the left extremity was affected. In two of these, the right was affected also.

Seven cases are recorded by Bouillaud, in all of which the left extremity was affected. In three, the right was affected also.

No. Case.	Extremity.	Extremity.
1.—I. By Gottfrey Zinn - - - -	Right.	——
2.—I. By Dr. D. Davis - - - -	——	Left.
3.—II. " " - - - -	——	Left.
4.—III. " " - - - -	——	Left.
5.—IV. " " - - - -	——	Left.
6.—I. By Dr. Lee - - - - -	——	Left.
7.—II. " - - - - -	Right and Left.	
This case commenced with varicose veins in right extremity during the last two months of pregnancy.		
8.—III. " - - - - -	——	Left.
9.—IV. " - - - - -	——	Left.
10.—V. " - - - - -	——	Left.
11.—I. By Bouillaud, from pressure of a tumour	Right and Left.	
12.—II. " " " "	Right and Left.	
13.—III. " " " "	Right and Left.	
14.—IV. " " from Fiévre ataxique -	——	Left.

No. Case.			Extremity.	Extremity.
15.—V. By Bouillaud	from	phthisis - -	——	Left.
16.—VI. "	"	abscess - -	——	Left.
17.—VII. "	"	phthisis - -	——	Left.
18.—I. By Velpeau - - - - - -			——	Left.
19.—II " - - - - - - -			Right and Left.	
In this case there was abscess in the body of the uterus.				
23.—III " - - - - - - -			Right and Left.	

SUMMARY.

	Right only.	Left only.	Right and Left.	Total.
Zinn -	1	0	0	1
Davis -	0	4	0	4
Lee -	0	4	1	5
Bouillaud	0	4	3	7
Velpeau -	0	1	2	3
	1	13	6	20

By a further analysis of these cases, we shall find that, in nineteen out of the twenty the left extremity was affected; but in six of these the right was affected also. That in the twentieth case, where the right extremity only was affected, the disease was produced by a special cause—viz: "some of the inguinal glands scirrhous, greatly enlarged, and surrounding the femoral vein, by which its diameter was very much diminished."

That in the six cases, in which the right extremity was affected as well as the left, there was a special cause, a tumour; in three, viz: Nos. 11, 12, 13, an abscess in body of uterus; in one, No. 19, and in another, No. 7, the case commenced in the right extremity during the last two months of pregnancy, with varicose veins. Whereas, in all the cases, except No. 20, which have occurred after delivery, or which have not been produced by a special cause, the disease has occurred in the left in preference to the right extremity.

That in three of the cases, Nos. 14, 15, 17, in which there was excessive prostration of the vital powers, and which are, therefore, analogous to the cases of Fearn and Wiggins, the disease took place, as in them, in the left extremity.

From all this evidence, then, it may be inferred, that phlegmasia dolens is more generally seated in the *left* extremity, and almost universally so when it happens under circumstances of great prostration of the vital powers, or after delivery.

That where it is seated in the right extremity only, or in the right as well as the left, there is some special cause, as tumour, &c., in operation.

Causes.—Although, then, we may, I think, be justified in believing that the anatomical relations of the left iliac vein, and of the right iliac artery, may be the cause of phlegmasia dolens in the left extremity, where the powers of the body are very weak, we must not forget that other causes may lead to the same result. During labour, for instance, it is the custom for women to lie on the left side, often for hours together, most injudiciously; and the same position is frequently maintained, even after delivery. Now, in this position, one can understand that the left iliac vein may be subjected to pressure from the uterus, both before and after delivery, and the venous circulation of the extremity be impeded, and thus phlegmasia dolens be induced. So also may a similar effect be produced by an accumulation of fæces in the sigmoid flexure of the colon.

Whatever, then, impedes or obstructs the return of blood along the large veins of either or of both the lower extremities, may be regarded as the remote cause of phlegmasia dolens; and the three causes just enumerated appear to determine the greater frequency of disease in the left than in the right lower extremity.

The *treatment*, according to the above views of the pathology of phlegmasia dolens, should be based on the principle of removing or obviating the cause, and

of facilitating the return of blood along the veins; for as the inflammation of the veins has been shown to depend on congestion of blood from obstruction, it would be injudicious to direct measures solely to the subdual of the inflammation without reference to the cause of it. Besides, in cases, such as form the subject of this lecture, where the powers of life are nearly exhausted, antiphlogistic measures could not be pursued. The abstraction of blood, even by a single leech, could not be justified. We have seen how efficacious and successful the principle of treatment I have just advocated was in the case of Wiggins, where, by elevating the limb and thus relaxing the iliac artery, and at the same time favouring the return of blood along the veins, the disease at once subsided without any other aid. Now had not this treatment been suggested and followed, we must have contented ourselves with the use of fomentations, for leeches were not admissible; and it is more than probable that the disease, in her weak state, would have turned the balance against her, and led to a fatal result, as in the case of Fearn. This treatment is applicable in all cases, and will probably be successful in those arising from debility, and auxiliary in the others, if adopted sufficiently early; but if inflammation has already gone to such an extent as entirely to obstruct the large veins, then its success will be less complete.

You must bear in mind the absolute necessity of ascertaining the cause, and of endeavouring to remove it. If the cause was pressure of the womb, remove it by change of position; if pressure from a loaded state of the sigmoid flexure of the colon, evacuate the bowels; if pressure from a tumour, attention should be directed to it; and as the cause admits of removal or otherwise, so will the cure be easily or with difficulty effected.

As regards the phlebitis, or inflammation of the veins, it will subside if the circulation can be restored by a relaxed and elevated position of the limb; but if, for reasons before mentioned, it should continue, as indicated by tenderness and pain in the course of the veins in the groin, then local blood-letting by leeches should be had recourse to as far as the strength will permit. Dr. Davis is of opinion that general bleeding is "decidedly objectionable," in which I entirely agree. He suggests gentle bandaging—a plan worthy of a trial in cases where there is no permanent cause, as a tumour.

The experience afforded by the cases of Fearn and Wiggins, has enabled us to arrive at the primary cause, and so to perfect the pathology of phlegmasia dolens, by regarding the inflammation of the veins as secondary. It has enabled us also to determine that the first object in the treatment should be to favour and facilitate the return of blood along the veins, which may of itself frequently attain the second, namely, the subdual of the inflammation.

The pathology of the disease then stands thus:—

1. Congestion from some impediment. 2. Irritation. 3. Inflammation. 4. Complete obstruction. 5. Œdema.

The principle of treatment: 1. To favour the return of blood by suspending or elevating the limb. 2. To combat the inflammation, if necessary, by local bleeding, consistent with the strength of the patient.

Any of you who desire to make yourselves further acquainted with the disease, may consult Dr. Hull's Essay on Phlegmasia Dolens, 1800; Dr. Davis's Essay in the 12th volume of the Transactions of the Medical and Chirurgical Society; Dr. R. Lee's paper in 15th volume of ditto; Velpeau, (Phlegmasia Dolens,) Archives Générales de Médecine, tome vi; Bouillaud: Oblitération des Veines; Archives Générales des Médecine, tome ii. p. 188.—*Lond. Med. Gaz.* 16th March, 1839.

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19. *Treatment of Quinsy by Scarification.* By M. Gerardin.—M. Velpeau, in his *Traité d'Anatomie Chirurgicale*, distinguishes two species of inflammation in the tonsils, one limited to the mucous membrane, the other situated in the submucous cellular tissue. It is important to recognize these two different seats of the disease. The examination of the throat will be sufficient to determine whether the mucous tissue or the cellular be attacked; and this diagnosis is indispensable, since the treatment which may prove successful in the one case would be detrimental in the other. Perhaps it is to the want of this distinction,

that the experience of one practitioner has been contradicted by another: for instance, in the use of alum gargles; which have proved advantageous in the mucous inflammations, but have increased the pain and inflammatory symptoms in the parenchymatous disease.

The application of leeches to the submaxillary region occasions often a local subcutaneous effusion in the neighbourhood of the inflamed tonsils; and it is to be lamented that this remedy should still be the common routine prescription with the generality of practitioners; for the physician is often called in only after one or two applications of leeches have preceded him. In every quinsy, whether mucous or parenchymatous, if the state of the subject be plethoric, I first bleed from the arm, and some minutes afterwards, I proceed to scarify the inflamed parts. It is rarely necessary to recur to this operation more than twice. In the most intense parenchymatous quinsies the disease yields to two scarifications made within twelve or twenty-four hours of each other. The swelling subsides directly, the patient feels great relief, which he does not fail to express. The scarifications are to be made more or less deep, according to the seat of the inflammation; if the cynanche is mucous, I slightly scarify all the parts reddened by the inflammation, the tonsils, the palate, and the uvula: if the disease is parenchymatous, I make deeper scarifications, particularly in the tonsils. I puncture the surface as long as the flowing blood will permit me to see: and, after it has cleared away, as the operation is not painful, I complete the scarifications on the untouched parts. In the parenchymatous quinsy, twelve or fifteen punctures will afford a sufficient bleeding. Under the influence of the scarifications, the resolution of the inflammation is prompt and invariable, and takes place almost always the day after the operation. After some time, there will be observed small white lines—the cicatrices of the punctures. I know of no objections to this practice, but the difficulty of getting at the seat of the disease, or when the intensity of the inflammation prevents the opening of the jaws. Boyer speaks strongly of scarifications in cynanche tonsillaris, but only as an occasional operation. It is remarkable that he should not have recommended them more generally, after using these words: "by scarification the alarming progress of the symptoms is arrested, and a prompt relief is given to the state of anxiety under which the patient labours." I scarify at the commencement of the inflammation, or at its height, according to the time of my arrival.

I have also recourse to scarifications in laryngitis and pharyngitis, and always with the greatest success. They are certainly more efficacious than cupping, and avoid the marks in the neck. *B. & F. Med. Rev.* April, 1839; from *Bulletin de l'Acad. Roy. de Méd.* No. 1. 1838.

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20. *Use of Caustic Issues in Phthisis Pulmonalis.*—M. Bricheteau has for some years past been in the habit of using, with very decided advantage, caustic issues, formed immediately below one or both clavicles, in cases of pulmonary consumption; even when the disease is far advanced, and auscultation has indicated the existence of tuberculous caverns in the lungs. That a powerful local derivative, like an issue, may have a decided influence in arresting at least the progress of morbid action, however serious, in an internal viscus, is well known to every medical man; and that in many cases it has this effect on the softening and ulceration of tuberculated lungs cannot, in M. Bricheteau's opinion, be gainsayed by any unprejudiced observer of his practice at the Hôpital Necker. Even where an absolute cure is not obtained, a great mitigation, and often a marked retardation, of the disease follows the establishment of caustic issues below the clavicles—provided always the rest of the treatment be at the same time judicious and appropriate.

We shall very briefly mention the histories of two cases recently treated in the hospital.

A young married woman was admitted in the following state on the 6th of June, 1837.

She was distressed with cough, puriform expectoration, copious sweats, and vomiting after the fits of coughing: there was a sharp stitchy pain felt over the right side of the chest. On examining the chest with the stethoscope a distinct

gurgling sound was audible beneath the right clavicle; the respiration was cavernous behind; and these two symptoms became more marked, when the patient coughed; there was considerable dulness on percussion beneath the right clavicle. The patient was so weak that she could not walk about.

A large caustic issue was established immediately under the right clavicle, and demulcent medicines and diet were prescribed.

This treatment was persevered in for six or seven weeks; and by that time most of the unfavourable symptoms had disappeared, and the woman began to recover her flesh and strength. Ultimately she did well.

Case 2.—A middle-aged woman had, after repeated attacks of hemoptysis, become affected with all the usual symptoms of pulmonary consumption—cough, copious puriform expectoration, night sweats, and diarrhœa. She was considered by the physicians of La Charité hospital to be decidedly phthisical. Under the use of a large caustic issue beneath the right clavicle, and appropriate attention to the most troublesome existing symptoms, this woman regained her health so well, that in the course of two months she was able to leave the hospital, and soon after resumed her occupation of a washerwoman.

At a subsequent period this woman was admitted for a syphilitic affection. Her pulmonary symptoms had not returned. On auscultating the chest, the respiratory murmur was found to be very feeble under the right clavicle, and there was considerable dulness on percussion over that point. Posteriorly the sounds indicated the adhesion of the pulmonary pleura to the ribs.—*La Lançette Française.*

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21. *Inflammation of the Umbilical Vein in Infants.*—M. Osiander, Meckel, and Sasse were the first who described phlebitis of the umbilical cord. M. Duplay has recently had an opportunity of examining several cases of it at the Hôpital des Enfans trouvés at Paris; and the following is a brief abstract of his paper in a late number of the *L'Experience.*

In his *first* case, that of an infant which died on the fifth day after birth, purulent matter was found in the umbilical vein from the navel to its entrance into the liver: the small intestines exhibited here and there points of inflammation and ulceration.

In the *second* case—neither the age, nor the symptoms present during life are mentioned—the umbilical vein was found full of pus, and its parietes were somewhat thickened: the umbilical arteries also contained pus. Purulent matter was found in both auditory passages, and likewise under the arachnoid membrane. Both pleuræ were coated with pseudo-membranous pellicles of recent deposit.

Third Case. An infant died on the tenth day after birth, having been affected from the fourth day with colicy pains, diarrhœa, vomiting, and meteorism of the abdomen. The peritoneum was found on dissection to be inflamed and partially coated with a membranous deposit, and there was a sero-purulent effusion in the abdominal cavity. The branches of the vena portæ, and especially the umbilical vein, exhibited a preternatural turgescence: this was found to be owing not so much to congestion, as to a thickening of their parietes. The trunk of the umbilical vein was a full line in the thickness of its walls, and its branches were even more remarkably affected. The cavities of all these vessels were coated internally with membranous deposit.

In the *fourth* case; the infant died on the seventh day after birth, after having suffered from severe pain in the bowels, vomiting, icterus, &c.

On dissection, all the morbid changes characteristic of peritonitis, were discovered: the umbilical vein and its branches were thickened, and lined with purulent matter internally.

Case fifth.—An infant died on the third day after birth, in consequence of an erysipelatous affection of the body.

The intestines and liver were found to be inflamed, coated with lymph, and also with a puriform exsudation. The umbilical vein, from the navel to its insertion in the liver, was filled with yellow pus.

In the *sixth* case, the infant was affected with symptoms of icterus, purulent ophthalmia, and an erysipelatous affection of the face, having a tendency to gangrene here and there: it died on the tenth day after birth.

Along with certain morbid changes in other parts, the umbilical vein was found to be filled with puriform matter, and to have its parietes considerably thickened.

General Remarks.—Our knowledge of the history of phlebitis of the umbilical cord is too imperfect to warrant us in speaking, with any certainty, on any of its characters or features.

As to the *cause* of disease, M. Sasse and others have attributed it to the irritation arising from the ligature of the cord, and from the ungentle attempts, sometimes made, to squeeze the blood out from it.

The *consequences* or *effects* of the lesion seem to be usually peritonitis, icterus, and rapid exhaustion of the vital energies.—*Med. Chir. Rev.* from *L'Experience.*

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22. *Case of Laryngitis, complicated with Bronchocele, in which the external application of Croton Oil was successfully employed.* By A. Campbell, M. D.—"March 26, 1834. A table-attendant, aged 19, strong and healthy, complains of considerable pain in the region of the larynx, with a feeling of extreme tightness, and incessant desire to cough. The voice is weak, unmodulated, and disagreeably hoarse on attempting to speak; he finds it difficult to produce vocal sounds, but, after expiring forcibly, the voice is elicited. There is no fever, or quickening of the pulse. No pain in the thorax, nor are the bronchi affected. Five days ago, he first observed the commencement of the above symptoms, which have continued to increase until now, when he is nearly aphonic, and much distressed by the constant necessity to cough. There is no pain or fever on firm pressure of the larynx, nor is there any appearance of inflammation in the pharynx; there exists a distinct enlargement of both thyroid glands; the swellings are soft, elastic, and fleshy, each the size of a small apricot; has not previously been affected with goitre, and was not aware of the presence of that disease when he applied for relief. He attributes the laryngitis to exposure during the night, as he was at the time of attack accustomed to sleep in the open air. The following mixture was directed to be made, and rubbed on the throat for half an hour twice a day: ℞—Ol. Croton ʒi.; Ol. Olive ʒij.—M. The throat to be covered with a flannel bandage.

"*March 28th.*—A crop of pustules have appeared on the neck; pain of larynx diminished; hoarseness continues.

"The croton oil frictions to be continued.

"*April 1st.*—The external larynx raw and ulcerated; voice restored to its natural tone; pain gone; goitre remains; discontinue medicine.

"*April 15th.*—Integuments of throat healed, and goitre completely disappeared.

"The efficacy of croton oil in removing laryngitis is too well known, I believe, to require further corroboration; consequently, the interest of this case (if it has any) consists in the manner in which the goitre was affected by the croton oil. During the removal of the disease in the larynx, the goitre was apparently unaffected; but, at the expiration of fifteen days from the cure of the laryngitis, and from the suspension of medical treatment, the enlargement of the thyroid glands entirely disappeared.

"Should future trials with croton oil prove, that it is efficacious in removing goitre, the result will be one of great importance ,as the enormous expense of iodine renders its general use (in countries where goitre prevails to a great extent) quite out of the question."—*Transactions Med. & Phys. Society, Calcutta,* vol. viii, part i.

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23. *Epidemic Scarlet Fever as it occurred in Edinburgh* in 1835-36. Scarlet Fever has been so frequently prevalent and so fatal a disease in this country, that whatever is calculated to throw any light upon its nature or treatment has the strongest claims to our attention. An abstract, therefore, of some of the accounts

of this disease as it occurred in Edinburgh in 1835-36 cannot but be acceptable to our readers.* As we shall deem it of consequence, to dwell to a degree of minuteness which some will consider tiresome, upon those facts which elucidate the precise character and violence of the epidemic, it is best at once to state that this course seems to us necessary for the appreciation of remedies, or of any course of treatment. It is unquestionably the neglect of first determining these points, which has given rise to so many errors and such contradictory statements relative to the value of particular remedies and plans of treatment; and which has often led practitioners to ascribe the small mortality occurring in their practice to the measures pursued, when in fact, it was entirely due to the mildness of the epidemic, or of the particular cases which fell under their treatment.

Some cases of Scarlet Fever occurred in Edinburgh in July, 1835, but it was not until later in the year that it prevailed to any extent. Towards the end of autumn, and still more during the winter and spring months, Mr. Wood states, in an interesting paper in the *Edinburgh Med. and Surg. Journ.* (January, 1837,) "it was very generally diffused over the city and neighbourhood, raging in the form of a very widely spread and severe epidemic; attacking, in its course, a great many persons of all ranks and ages, and of both sexes, and proving fatal in a great many instances. It is a remarkable circumstance that the fever extended nearly as rapidly, proved as severe, and was as destructive of life, in the families of the higher ranks, living in large houses, in open airy situations, as in those of the lower, crowded together in small airless dwellings, in narrow streets and lanes. Indeed, I have some reason to think, from accounts I have received from my medical friends, that even a larger proportion of the sufferers from the fever in the higher ranks have fallen a sacrifice to it, than in the lower during this epidemic. The fever became less frequent as the summer advanced, and assumed rather a milder character, but it has continued to prevail to a considerable extent, both in the town and neighbourhood, down to the present time; and it has lately proved fatal, and that very rapidly in some cases. During the existence of the fever in Edinburgh, it has been met with in almost all the towns, and in many parts of the country, both in Scotland and in England; and I am told also in some parts of the continent of Europe, and of America."

Below will be found abstracts of the accounts of the disease as it appeared in some of the Charitable Institutions of Edinburgh.

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24. *Account of Scarlet Fever as it occurred in George Heriot's Hospital, Edinburgh.* By Wm. Wood, F. R. S. E.—Scarlet Fever appeared in this institution early in January, 1836, and continued to prevail there till the month of March. During the whole of this period, the weather was remarkably bad, there being many great and sudden alternations of heat and cold; much rain, hail and snow, following each other in rapid succession, and frequent gales of wind. It reappeared in November, and in December, there was one boy convalescent from an attack.

This hospital contained when the epidemic made its appearance, 180 boys from the age of 8 to 14; 17 female and 10 male adults, making a family of 207 individuals. There were in the hospital two rooms for the exclusive use of the sick, large, well heated and ventilated, each capable of containing more than 12 boys in separate beds. There was a well constructed warm bath, in a small room adjoining to and directly communicating with each of these sick wards; and from an early period of the epidemic water was kept constantly boiling, so that a bath of any required temperature could be had immediately when wanted. There is also another room, capable of containing more than 6 boys in separate beds, which was employed, in the first instance for the reception of the invalids until the nature of their disease was satisfactorily ascertained; and it was afterwards used for the accommodation of the convalescents.

* Some account of this epidemic has already been given in this Journal, (Feb., 1837, p. 503, et seq.,) but further details will be interesting, inasmuch as the experience of different practitioners is far from being in accordance as to the treatment which proved most successful.—Ed.

Upon the first appearance of the Fever in the hospital means were used to arrest, if possible, its progress, but without success. It spread rapidly, and by the end of a month, 31 of the boys had been attacked with it; in another month 5 more, and in addition to these cases, the house governor became affected with fever and sore throat, bearing all the characters of scarlatina although he had had the disease when a boy, and the sick nurse suffered from a similar illness. With the case which occurred in November, there were in all 45 well marked cases of the fever.

"The boys, in the early part of the year, came into the sick room very indiscriminately from the five sleeping wards; but, on the whole, as was to be expected, more of the younger, than of the older suffered from the disease. A good many of the bed-fellows of those who took the fever remained free from all complaint, although some of them had not been previously affected with it. Of the seven boys who were taken ill towards the end of the year, four came from the sleeping ward for the younger boys, and all of them had been admitted into the hospital in the month of June, after the fever had left it for a time. Independently of the forty-five cases of fever above alluded to, several of the boys and female servants of the institution suffered from a greater or less degree of sore throat, with slight fever, but these were not reckoned cases of scarlatina, as they did not exhibit any very characteristic marks of that fever; although it is not improbable that, in some of them, the illness was a modification of the disease, produced by exposure to contagion.

"Of the forty-five persons who were considered to have passed through the fever in a distinctly marked form on this occasion, thirty-eight were understood not to have had it previously; five to have had it; and no information could be procured with respect to the other two. One only of the boys who had been affected with the disease in the hospital during the epidemic of 1832-33, took it in that of 1835-36, although many of them were still inmates of the house; and it is rather remarkable, that this boy was Daniel Mathieson, mentioned in my former communication, as having been attacked during his convalescence from well-marked *Scarlatina anginosa*, while still exposed to the contagion in the sick-room, with a renewal of fever and sore throat, attended with a renewed eruption, bearing all the characters of scarlet fever. He happened to be in the sick-room with slight inflammatory sore throat, at the time when the first patient was brought there with the fever in January, 1836, was thus exposed to the contagion, and returned to it in the course of about thirteen or fourteen days, labouring under fever, eruption, and sore throat; but with him, on this occasion, the disease was of a very mild nature.

"The fever in the hospital has proved unfortunately to be a very severe one, and four of the boys have fallen a sacrifice to it. In this, as indeed in all epidemics, even in those of the most malignant character, the disease has been mild, in a considerable proportion of the cases, and attended with little or no danger; in others, the symptoms have been alarming, occasionally from an early stage of the complaint, and very little under the control of medical practice."

No case was met with in the hospital during the epidemics of 1804, of 1832-33, or of 1835-36, of that form of the disease in which there is fever with scarlet eruption distinctly marked, but without any affection of the throat (*S. simplex* Willan), and Mr. Wood thinks that the existence of true scarlatina without some affection of the throat is a rare occurrence; and that upon careful inspection this part will be generally found more or less inflamed.

Mr. Wood is disposed to believe, that an erroneous opinion may have been formed as to the frequency of its occurrence from the state of the throat having been overlooked, in consequence of being slight and attended with but little pain. Mr. W. says he has frequently detected swelling and inflammation, and occasionally also superficial ulceration of the throat, in persons, who on previous inquiry, would not allow that they had either pain or uneasiness in it.

By far the greater number of cases were of that variety in which, along with fever and eruption, there are more or less swelling and inflammation, and frequently some degree of ulceration of the throat (*S. anginosa*) one or two of

the cases might be referred to the variety termed S. maligna, but this last Mr. C. considers as differing from the former merely in degree. In only one case was there any degree and that a slight one, of the foul fœtid sore of the throat, which is generally an attendant on the fever in its most malignant form. In all thirty-five of the patients may be classed under the heads of *S. anginosa* and *maligna*. In ten, the fever was attended with sore throat, without eruption, (*S. faucium*, Tweedie); in some of these the patient had never before had the disease, in others they had been affected with it at a former time. "There is no reason to doubt," Mr. W. thinks "that the affection in these last cases, is produced by exposure to the contagion; that it seems to bear the same relation to scarlatina that secondary does to primary small-pox; although it proves, occasionally, as severe a complaint as in its original form and the same severity has been remarked in some of those cases, in which the disease appears, for a second time in its perfect form, of fever, eruption and sore throat. I have not been able to satisfy myself, whether persons affected with this secondary form of scarlatina, are capable of communicating to others that disease in all its varieties; but I am rather disposed to think so; at all events, there seems no reason to doubt, that they are capable of communicating that kind of sore throat which is generally attended with white specks on the tonsils. Of the thirty-five cases of the fever, belonging to the varieties denominated *scarlatina anginosa* and *scarlatina maligna*, four were said to have been previously affected with the disease in one form or another; and amongst them one of the boys in whom it proved fatal; thirty were understood not to have previously suffered from it; and in regard to the other, no information could be procured. Of the ten cases of *scarlatina faucium*, two were believed to have been previously affected with it; seven not, and in one it was a matter of doubt. One of the boys, who was attacked with fever, sore throat, and eruption, on the 21st of January, and was reported to be convalescent on the 2d of February, though still confined to the convalescent room, had a renewed attack of sore throat and fever, preceded by cold shivering, on the 9th of that month. There was much redness and swelling of the tonsils, and one of the submaxillary glands was much enlarged; but there was no eruption. The symptoms of the fever have been, with a few exceptions, the same with those detailed in my former communication; but have been met with in different degrees of severity, and in varied combinations, in the different epidemics, and individuals. In general, the fever in the hospital, in 1836, has had much more of a typhoid type than in 1832-33; the first stage has been more distinctly marked, and of longer duration; there has been much depression of spirits, with languor, lassitude, and great general uneasiness; total loss of appetite, and nausea, attended occasionally with frequent vomiting; in one of the cases there was early in the disease some degree of diarrhœa; but this was not a common symptom.

"In the first stage there have been often also regular fits of cold shivering, the head ache, and the pulse has been frequent, but languid. Sometimes there has been, from the first appearance of the symptoms, a degree of swelling and redness of the throat, with white specks on the tonsils. The vomiting has been frequently continued in the second stage, and in it the pulse has become much quickened, but languid, it has been very seldom under 120 beats in a minute, and often very considerably above that. The eruption, in the cases in which it has been present, has come out rather slowly, and partially over the body at first, and has been, in general, of a less bright-red colour than during the former epidemic. The rash in one of the boys, who died with strongly marked typhoid fever, assumed an appearance which I have always found to indicate a very dangerous state of the disease; it was of rather a pale-red colour on most parts of the body; but there were many large patches of the skin of a purplish or claret colour; and the fingers, wrists, and lower parts of the fore-arm, as well as the toes, feet and ankles, were tinted of the same colour, giving to the extremities very much the appearance of their having been immersed in a light-coloured infusion of logwood. At the same time, the fingers and toes were swelled; but this was a different affection from the rheumatic swellings which

have been frequently met with during the present epidemic, and from the œdematous swellings, so common as sequelæ of the fever. In the boy who was first taken ill, there appeared, on the second day of the disease, along with the general rash, which was at first of a pale-red colour, and only partially diffused, a number of small elevated red papulæ, giving an appearance to the skin very like that which is sometimes met with in the early stages of *small-pox*, when there occurs along with the pustular eruption, a *roseolous* rash. The general appearance, indeed, was so similar in this case, that it led to some doubt for a day in regard to the real nature of the disease. The heat of the surface of the body, after the reaction, has been generally less than is usual during scarlatina; and there has been a tendency to cold shivering, produced by any part of the surface of the body being exposed to the air. The sleep has been confused, and there has been often delirium, the approach of which was marked, in one or two of the boys, by a peculiar quickness in their movements, and the unnatural rapidity with which they answered questions put to them. In one of the fatal cases the delirium was of a violent kind, and the patient was disposed not only to leave his bed, but also to strike the friends who were in attendance on him. The breathing has been generally quick, and attended, in some of the severe cases, with frequent short sighs. In all the patients the throat has been more or less affected. The inflammation has been generally of a dark-red colour, with white specks; and it has sometimes extended downwards along the pharynx, and even in all probability affected the œsophagus, and upwards to the roof of the mouth, into the cavities of the nose, and also into the ear by the Eustachian tube. In many cases there has been ulceration of the tonsils, more or less deep; but in none has there been any extensive sloughing. A quantity of tough dirty-white mucus has been generally accumulated on the back part of the fauces, and in the neighbourhood of the glottis, producing much painful irritation, and troublesome short cough. The tongue has been commonly moist, and loaded, with red papillæ projecting through a brownish-yellow crust, and it has been red and tender along its margins; sometimes it has been of a dark-red or purplish colour, but clean, occasionally glossy; and in some cases, towards the end of the fever, it has become superficially ulcerated. The mucous membrane lining the nose and eyelids was inflamed in one or two of the cases, and discharged an acrid fluid, which produced ulceration of the lips and surrounding parts. Some of the cervical glands were generally more or less enlarged, and painful to the touch. The recovery of the invalids has been commonly slow. In some cases in the course of the present epidemic, as in that of 1804 and 1832, the pulse has been found, for many successive days, during the period of convalescence, considerably slower than natural, when the patients seemed in all respects well. This happened at a time when they were still confined to bed, and were living almost entirely on milk and vegetable food.

Such have been the symptoms of the fever in the hospital during the present epidemic, and these have been met with in very different degrees of severity, and in various combinations, in the different cases. Four of the forty-five patients have died; three of them from the *primary* and *direct effects* of the fever, and one from its *indirect* and *secondary* consequences. I shall afterwards give a full account of these cases; but I may here mention, that one of the boys died unexpectedly, in little more than forty-eight hours from the first attack, without the occurrence of any symptoms of malignancy, or indication of danger, or without any appearances having been discovered on dissection to explain the cause of death. Another expired in little more than thirty-six hours, in exactly similar circumstances. In both these cases the symptoms were those of *scarlatina anginosa*, and a state of collapse took place very soon after the disease commenced. In a third, the fever lasted till the seventh day, when the boy sunk, after having suffered from all the symptoms of the disease, in its most *malignant* form, with the exception of there having been no very severe or serious affection of the throat. The fever partook in him, very strongly, of the typhoid type; the general eruption was rather pale, and there were large patches of the skin of a light claret colour; the extremities had a uniform tint of the same

colour, and the fingers and toes were swelled. There was much delirium, occasionally of a violent nature, and requiring the use of a strait jacket; the eyes were red. In the fourth fatal case, the symptoms were those of severe *scarlatina anginosa;* for although there was much fever, with great restlessness, general uneasiness and delirium, there was not that appearance of the eruption and of the throat which is generally supposed to mark the *scarlatina maligna.* The boy was ill for thirty-three days, during which he was occasionally better and worse, and his death seemed to be caused by a diseased state of the bronchial and mesenteric glands, with probably some organic derangement of the parts in the vicinity of the glottis, as we were led to suppose, from the nature of the cough, which was a very painful and distressing symptom; but we had no opportunity of ascertaining the accuracy or inaccuracy of this opinion, as leave to inspect the body was refused by the friends.

"The principal *indirect* or *secondary affections*, produced by the fever, have been *dropsical effusions* in various parts of the body, and *rheumatic affections* of the *joints*, which have been unusually frequent during the present epidemic. There has been no suppuration of the external glands in any of the patients, and of the ear in one only; and it was a very slight affection, and gave little trouble.

"In eight of the forty-five cases, more or less œdema has been observed; in five of them, it was unattended with any disagreeable effects; but in three, there were severe and strongly marked symptoms of affection of the head and chest. In none of the eight cases has the fever been very severe in its primary stages; in most of them it has been mild, and in all there has been a distinctly marked eruption. In none of the seven boys who were affected with the fever in the months of November and December was it followed by dropsical effusions. The œdema appeared some time after the fever had subsided, and while the patients were considered to be convalescent. It has been occasionally observed in the face alone, and when it affected the hands and feet, as was the case in one of the patients, it began in the face, took place next in the hands, and then in the feet. The average period from the commencement of the disease, at which the dropsical symptoms came on, in the eight cases, was nineteen days, the earliest being seventeen, and the latest twenty-two; and, in this respect, there is a remarkable coincidence with what was observed in the nine boys who suffered from the same affection in the hospital in 1832-33.*

"In all the dropsical cases, the urine was coagulable, to a greater or less extent, by the application of heat, and it was of a less specific gravity than usual. This was satisfactorily ascertained by many trials made by my friend Professor Christison, who took an anxious interest in the investigation. The coagulable urine was unnatural in colour, occasionally resembling whey, and its appearance was generally so peculiar, that it was easy to prognosticate, from that alone, whether it would or would not be found to be coagulable. In some of the patients, it was of a red colour, from a mixture of blood, very much resembling water in which meat had been washed; and it went through various shades of red and brown, before it assumed a healthy appearance. During the presence of œdema, the urine was small in quantity, and in one case, the secretion seemed to be nearly suspended for a short time. The diminished specific gravity and coagulability of the urine remained in one of the boys for a considerable time after the dropsical symptoms had disappeared, when he seemed to be totally free from disease, and was engaged in his usual avocations. In some cases the œdema was evidently caused by imprudent exposure to cold; and more particularly to a current of cold air, during the period of convalescence. In one, it was brought on by a window of the convalescent room having been opened, for a very short time, by one of the boys, for the purpose of speaking to a com-

* "Its first appearance," according to Dr. Wells, "is generally on the twenty second or twenty-third day after the commencement of the preceding fever:" and he adds, "it may come on as early as the sixteenth day. . . . . and its attack may be delayed to the twenty-fifth."—Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Vol. iii. p. 168.

panion on the outside of the house. In other instances, however, it came on before the patients had been allowed to leave their beds; and when the most unremitting attention had been paid by the nurses to prevent any improper exposure. The dropsical affections had all the characters of that disease in its *acute* form; the swellings were more elastic to the touch, and pitted much less on pressure than in cases where they arise from debility, and are the effects of organic derangement of the internal viscera. In the five patients, in whom there were no unpleasant symptoms connected with the dropsical swellings, these were observed in the face alone. In two, in whom there were symptoms of affection of internal parts, they were also confined to the face; but in the third, they appeared in the face, hands, and feet in succession. The symptoms of affection of the head and chest were very similar to those produced by effusion of serum or other fluids into these cavities; but it is difficult to suppose, that any considerable quantity of fluid had actually been effused into them, considering the great rapidity with which the symptoms were removed by general blood-letting and other powerful remedies. Sometimes previously to the appearance of the œdema, the pulse was observed to be slower than natural, and continued so for a time; but in all the cases in which symptoms indicating an affection of the head and chest were connected with the œdematous state, there was more or less general febrile excitement, and the pulse was occasionally remarkably frequent; with the heart beating tumultuously; the symptoms seldom came on till several days after the œdema had appeared, and then, sometimes, very suddenly, and with great violence.* I am happy to say, that none of the patients in the hospital have died of this affection during the present epidemic, though several of them have been in considerable danger, and have required active treatment for the removal of their complaints. A great difference of opinion has existed among writers on scarlatina, in regard to the degree of importance to be attached to these dropsical affections; by some they are considered to be of very little consequence, while, by others, they are said to be attended with even more danger than the fever itself in its primary stages. This difference of opinion seems to me to have arisen from the different nature of different epidemics, and from the different modes of treatment which have been employed; particularly for the removal of the dropsical affections. The comparative degree of danger from the primary fever and its secondary effects in different epidemics, is well illustrated by the histories of the disease, as it appeared in Heriot's Hospitalin 1804, 1832, and 1836. In the epidemics of 1804 and 1832-33, none of the patients died of its *primary effects;* while in that of the first, three; and of the second, one died of the *dropsical affections.* In the epidemic of 1836, three died of its *immediate effects,* and one of the *more remote;* but none with *dropsical symptoms.*

"At all events, the period during which œdematous swellings are present, should invariably be considered as one of danger, requiring the most watchful care of the medical attendant, as alarming symptoms frequently appear very suddenly; for the removal of which, the most active treatment is essentially required, and without loss of time; and, fortunately, in no stage of the disease are powerful remedies more decidedly useful. The cases in which symptoms were produced by the dropsical affections, or, perhaps, I should rather say, by the state of the constitution giving rise to them, seem to me to be of sufficient importance to be given in detail; in the meantime I may state, that one of the boys, in whom an œdematous swelling of the face was observed on the 20th day from the commencement of the fever, complained suddenly, on the 25th day, of very violent pain in the forehead; he was at the same moment totally deprived of his eye-sight, and the pupils of the eyes became very much dilated. His urine had been previously of a dark red colour, and coagulable; and his pulse had been for a few days rather below the natural standard, but he had not complained of any thing. After a few minutes the pain of the head went suddenly

* On this subject Dr. Wells says, "Symptoms of extreme danger sometimes appear as early as the third day after the face has begun to swell."—(*Loco citato.*)

off, and his vision was immediately restored. I was informed by one of my sons, who happened to be in the sickroom at the time of this singular affection, that, just before he recovered his sight, the iris of both eyes was, for a short time, in a state of rapid dilatation and contraction. Blood, which was immediately taken from the arm, was much cupped, and had a thick buffy coat; an additional quantity drawn some hours afterwards was of natural appearance. This patient made a perfect recovery without any other severe symptoms having taken place.

"In another of the boys, slight œdema of the face appeared on the 20th day of the fever, while he was still confined to bed. On the 25th, there was some œdema also of the hands, and the pulse was 100. Medicines were given for the removal of these symptoms, and on the morning of the 27th day, the swelling of the hand was reported to have disappeared; that of the face to be much lessened, and the pulse was 94. Soon after this report had been made, he had a severe and long-continued fit of cold shivering, which was removed by the warm bath; but immediately afterwards he became extremely hot, and his face was much flushed. He vomited, and complained of great pain in his head; the breathing was quick, short, and oppressed, and the heart beat tumultuously; the pulse was too rapid to be easily counted. These unpleasant symptoms were considerably relieved by blood being drawn freely from the arm, and by purgative medicines. In the evening, however, he was still hot and feverish, and the breathing was quick and oppressed. He was again bled with great relief, and next day he was in all respects better; he had slept well; looked comfortable; his breathing was much more natural, and his pulse was less frequent. After some time his feet swelled considerably; he was plagued with a troublesome cough, and became affected with severe rheumatic pains in his joints; but he recovered perfectly, though slowly.

"Four of the boys who had the fever early in the year, and Mrs. Stewart, the nurse, suffered from painful *rheumatic affections*, principally of the smaller joints, as sequelæ of the fever. None of the patients who were taken ill in November and December had any attack of this sequela. Mrs. Stewart, who had laboured under *scarlatina faucium*, was attacked during her convalescence with long-continued and very painful lumbago. The four boys had been affected with *scarlatina anginosa*, and two of them in a very severe form; in these two, there were rheumatic pains of the extremities generally, without any appearance of swelling or of external inflammation, in one of them they commenced on the third, and in the other on the fifth day of the fever, in both during the presence of the eruption. In the third boy, the ankles were affected, and although there was neither swelling nor inflammation of them, the pain was much increased on their being touched, or on motion; this affection came on very late in the disease, and after dropsical symptoms, which had been both troublesome and tedious, had been removed. In the fifth case, the rheumatic affection assumed rather a remarkable character; the boy complained, on the seventh day after being attacked with the fever in the form of *scarlatina anginosa*, during the existence of desquamation of the skin, of very severe pains in the legs and arms; on the eleventh day there was much painful swelling of the fingers; on the twenty-second, œdema of the face appeared, with pain in the head; on the twenty-ninth, there was a renewal of the pain in the head, and there were symptoms of affection of the chest, both of which were removed by blood-letting and other remedies; on the thirty-eighth there was much pain in the hands, and in both hams, so much, indeed, as to prevent him moving easily in bed, and much increased by the slightest touch of the parts affected, which were a little swelled, but not red. On the fortieth day he complained of toothache, and severe rheumatic pain over the right eyebrow. On the fifty-third day, there was a great deal of pain in the left ankle and knee, which was much swelled. After the decline of these symptoms by the use of leeches, sinapisms, and blisters, he complained of great pain in the upper and fore part of the left thigh, and the slightest touch was insufferable; he was for a long time confined to bed. For some time after the pain had so far subsided as to allow of his being taken up,

he was unable to make any use of the left leg in walking, partly from pain, but principally from a want of power and command of the limb. He could not rest any weight upon it, and when it was moved, it shook in a singular way; altogether, the mode in which the limb was used was very similar to that produced by paralysis. This affection remained for many months, although he was in the enjoyment of good general health, and it went off slowly and gradually, during a residence at the sea side, and the use of sea bathing. He is at present in good health, and has regained the perfect use of his limbs.

"Two of the boys who had been affected with *Scarlatina anginosa* in rather a mild form, suffered from an attack of *pneumonia* after their recovery. One of them, who had had some degree of œdema of the face without any unpleasant symptoms, was attacked with pneumonia eleven days after he had returned to his own sleeping ward, and been engaged in his usual avocations, and above seven weeks from the commencement of the fever. In the other, the inflammation of the lungs took place above a month from his having left the convalescent room, and above two months from the first symptoms of the fever.

"It is a very remarkable circumstance, and one not easily accounted for, that a boy was attacked 29th February with *small-pox* while in the convalescent room, to which, and to the sick-room, he had been confined for above a month, in consequence of having been affected with *scarlatina faucium*." * * *

"On the 22d March, another boy; on the 31st a third, and on the 18th April, two or more were attacked with *modified small-pox;* the last of these only had been affected with scarlet fever. In all of them the disease was of a very slight nature. In none of the patients, during the prevalence of the present epidemic, has there been any *erysipelatous affection*, as had been the case during the former.

"The *treatment* of the *fever* in the hospital, during the present epidemic, has been conducted on the same general principles as during the former. There has been no disinclination on the part of Dr. Abercrombie, and myself, to employ general blood-letting, during the primary stages; wherever its use seems to be indicated by great febrile excitement; or by the occurrence of symptoms marking some local affection: but, on the other hand, we have not been disposed to have recourse to it, as a general remedy, from any belief of scarlet fever, partaking always, or most frequently, so much of an inflammatory nature, as to render its employment necessary, without some special indication. In consequence of the sudden death of two of the boys, in a state of collapse, soon after the fever appeared in the hospital, and of the disease having assumed much of the typhoid type, we considered it improper, and unnecessary to use the lancet, in the primary stages of the fever, in any but the first case which occurred. Local bleeding by leeches has been frequently employed for the removal of local symptoms. Emetics have been very little used, in consequence of the languor, lassitude, and general depression of the patient, in the commencement of the disease. Purgative and laxative medicines have been given freely, and frequently, in all its stages. The tartrate of antimony has been much less employed, with the view of producing nausea, than on the former occasion; because the febrile excitement has been less; it has been frequently given, however, as a diaphoretic, in combination with other medicines of the same class. Sponging with cold water has not been at all used; and with tepid, only in particular cases, and in them cautiously, in consequence of the heat of surface of the patients having been, in general, little above the natural standard, and of there having been a tendency to cold shivering, produced by exposure of the body to the air.

"The warm bath has been very frequently employed, in all stages of the disease, and with the best effects. It shortened the duration of the cold stage, and hastened the appearance of the eruption; in the febrile state, it allayed febrile excitement, and tended to produce sleep; and, during the period of desquamation, it relieved the unpleasant irritation produced by the affection of the skin, and assisted in restoring it to a healthy state. The temperature of the bath was regulated by the heat of surface of the patient. I am disposed to think, that sufficient importance has not been attached to the warm bath, as a remedial measure, in scarlatina; and that it has not been hitherto used so generally, nor

repeated so frequently, as it ought to be. I hope it will not be inferred, from this statement in favour of the warm and tepid bath, in certain states of the fever, that I am disposed to undervalue the practice of sponging the surface of the body with cold, or with tepid water; a practice from which the most beneficial results have been obtained, under judicious management; but this practice has not seemed a desirable one, as a general remedy, during the present epidemic, from the want of a high temperature of the surface of the body. In all instances, where the patients could be placed in the bath, without much disturbance, it was extremely pleasant to their feelings, and it was often asked to be repeated.

"Tincture of opium, in combination with antimonial wine, has sometimes been given, during the state of desquamation, after the febrile state has subsided, with a view of relieving the uneasy irritation produced by the state of the skin, which is frequently so distressing as to deprive the patient of sleep.

"In the management of the local affection of the throat, leeches have occasionally been applied, where there was much inflammatory swelling of the tonsils, and where any of the external glands were enlarged, and painful. Blisters have been occasionally used in swellings of the submaxillary or cervical glands, after the decline of the fever; but not often, during the febrile state, as they add to the discomfort of the patient, and do not seem to produce much effect in lessening the internal affection of the throat. Infusion of roses, acidulated with the sulphuric or nitric acid, and occasionally with an admixture of the tincture of capsicum, has been much used as a gargle. In many cases, where there was a great disinclination, on the part of the boys, to the use of gargles, they were persuaded, as a substitute, to sip frequently teaspoonfuls of common syrup, made pleasantly acid by addition of diluted nitrous acid. The strength of this mixture was varied according to circumstances: in some cases it produced considerable pain in being swallowed, by a person affected with sore throat, when it hardly tasted acid to one without such affection. In all cases where there was an accumulation of mucus in the mouth and throat, it was removed, as much as possible, with a sponge, and by frequent washing with tepid milk and water. Upon the whole, I am disposed to think, that too much importance has occasionally been attached in scarlet fever, to the state of the throat, and to the applications made to it. No doubt, in some cases, where there has been extensive sloughing of the throat, and neighbouring parts, death has been caused by the local affection; but more generally, I believe, the death is to be ascribed to the kind and degree of the general fever, by which the state of the throat is regulated, and consequently, the cure of the local affection must depend, in a great measure, on the treatment of the fever itself.

"Wine and other cordials were considered necessary in only a few cases; and in them they were given with great caution. When wine was used, it was given, at first, at least, diluted with water, and only in tablespoonfuls at a time, till its effects, which were very carefully watched, were ascertained; and by these its future use was regulated. Not more than six or seven of the patients in all, had any wine or other cordial given to them in any stages of the fever, or during their convalescence.

"A strictly antiphlogistic regimen was followed during the whole period of the febrile state, and for some time afterwards, and even when food of a more nourishing kind was allowed during the convalescence, it was given sparingly and cautiously, from a fear of febrile excitement being produced, not unlikely to terminate in dropsical affections. And for the same reason, the greatest care was taken to prevent the patients from being exposed to cold air for many weeks after the fever had subsided.

"In the treatment of the *dropsical affections* which followed the fever, the remedies have been varied according to the extent of the œdema, and the nature of the symptoms with which it was accompanied. In the cases where the œdema was partial, and confined to the face, without any fever, or symptoms of affection of internal parts, active purgative medicines were given, followed by diuretics, of which digitalis was the one principally trusted to, on account of its effect in lessening the force of the circulation; and the warm bath was

employed, with a strictly antiphlogistic regimen. Under this treatment, the œdema generally disappeared, without producing any unpleasant effect. In all cases, however, where, along with œdematous effusion, there was febrile excitement, and more particularly where symptoms appeared indicative of an affection of any of the internal parts, and in our patients those of the head and chest were alone affected, general blood-letting was immediately had recourse to, and repeated at short intervals till relief was obtained. The rapidity with which symptoms the most severe, and of the most alarming kind, disappeared under this remedy was very remarkable. In no case, during the present epidemic, have convulsion fits occurred either in the primary or secondary stages, as was the case in several instances during the last. It is satisfactory to know that recovery often takes place, under the use of blood-letting, of patients who have been affected with very severe convulsive fits. Along with blood-letting, active purgatives have been employed. The warm bath has been repeated frequently, and diuretic medicines, and occasionally tartrate of antimony, have been administered.

"Nothing seems to be better established, in the history of scarlatina, than the fact, that the dropsical affections which so frequently follow it, are, in all cases, more or less of the *acute* species, requiring, in many instances, the most powerful antiphlogistic remedies for their removal; and no greater improvement has been made in the treatment of the fever and its consequences, than that of the early and free use of the lancet in the dropsical affections. For this change we are in a great measure indebted to Drs. Abercrombie, Bright, Christison, and other medical men of the present times, who have thrown much light, in their writings, on the nature and cure of *acute dropsies* in general, and of the dropsical affections occurring as sequelæ of scarlatina in particular. But it ought to be mentioned, in justice to Dr. Wells of London, that he, after stating as a speculative opinion, that in this affection "inflammation may be supposed to exist sometimes in the head and the chest," adds, "and consequently bleeding, where danger is urgent, may be employed with advantage." In what follows, we have a very striking instance of the strength of the prejudice which at that time prevailed, against bleeding in these affections, from the dread of debility. "I must add, however," he continues, "that I have never prescribed bleeding myself in this disease, and that possibly I should not have courage to prescribe it, if a case were to occur to me, in which I might think it proper." He farther says, "Whatever opinion may be formed of what I have just said, it seems very evident that the dropsy, which occurs after scarlet fever, is in the beginning a symptom of some state of the body different from debility."* The dropsical state, as it has appeared in Heriot's Hospital during the present epidemic, seems to have been more directly under the control of remedies, than the severe symptoms of the fever in its primary stages.

"The *rheumatic affections* have been treated by the warm bath and warm fomentations, and by the use of opium, combined with preparations of antimony, or with ipecacuanha. Where there were swellings of the joints, leeches were applied, and sinapisms, and blisters; and friction, with stimulating embrocations, was afterwards had recourse to. In one boy, as formerly mentioned, after the swelling and pain had been removed by these means, the power of the limb was restored by sea-bathing, and a residence at the sea side of some months duration.

"On comparing the state of the fever in the hospital during the three epidemics mentioned in this and my former communication, it appears that in 1804, of 140 inmates of the institution, fifty of the boys were attacked with the disease; in all of them it was very mild in its *primary stages*, and none died of its *primary* and *direct effects*. An emetic was given occasionally, but not generally, on the approach of the fever, and towards its decline a moderate quantity of

* These observations are contained in a very interesting paper on the subject of "the Dropsy which succeeds Scarlet Fever," by Dr. Wells, in the third volume of the Transactions of the Society for the Improvement of Medical and Surgical Knowledge, p. 167.

wine was allowed. This seemed to be necessary in a few cases; but to avoid the appearance of partiality, the practice of giving it was general."* The treatment consisted principally, however, in the use of purgative medicines, which were given fully and freely in all stages of the complaint. The warm bath was repeatedly used; and saline and diaphoretic mixtures were employed in a few cases, with the occasional use of "gargles, composed of port wine, diluted with water, or of vinegar and water, sweetened with honey or sugar."

Dr. Hamilton does not state the exact number of patients who became affected with *dropsical effusions;* but three boys died, and two others were in great danger from their effects. In the fatal cases the patients died, he says, "within less than thirty-six hours from the recurrence of complaint, labouring under symptoms denoting ascites, hydrothorax, and hydrocephalus."† The affection was treated by the use of "suitable cordials, and purgative medicines of appropriate quality."‡ "Strong purgatives were given in large and repeated doses, sometimes twice and thrice in the same day, before the necessary evacuation was procured." Stimulating glysters were also occasionally employed "to support and promote the efficacy of the purgatives, and to insure a determination downwards." Blood-letting does not appear to have formed any part of the treatment; but this is not to be wondered at, as at that time dropsical affections were generally, or I should rather say universally, believed, by the medical men of this country, to be in all cases the effects of debility. I have little doubt that more of the fever patients would have been attacked with dropsy, and a greater proportion of those who were affected with it, would have died, if it had not been for the full and free way in which active purgative medicines were given by Dr. Hamilton, in all stages of the disease, in opposition to the then prevailing prejudice against their use, founded on the erroneous fear of their producing injurious debility, and increasing the tendency to putridity. In this mode of treatment of scarlatina, there was a near approximation to that of the present day, in which even the more powerful antiphlogistic remedies, general and local blood-letting, are had recourse to, under particular circumstances, with the best possible effect in all stages of the disease. The prejudice against the use of purgatives in scarlatina prevailed to a great degree for some years after 1804. Dr. Willan, after giving an opinion against the use of blood-letting in the primary stages of the disease, says, "Purgatives have nearly the same debilitating effect as blood-letting. They are indeed seldom necessary; for though a few patients may, on the first day, be affected with bilious vomiting and diarrhœa, the state of the bowels is more uniform than in other febrile complaints."§ It is rather remarkable, that no mention is made by Dr. Hamilton of the employment of diuretics. This may have arisen, perhaps, from the great confidence placed by the Doctor in purgative medicines, and in the effects of calomel, which he gave very freely on this occasion, even to the extent of producing a considerable degree of ptyalism.‖

"In 1832-33, of 206 inmates of the hospital, forty-four of the boys, and one female adult took the fever. In most of these cases it was of a mild nature in the *primary stages*, and none died of its *primary* and *direct effects*. Emetics were occasionally given in the commencement of the fever; purgative medicines in all its stages; the tartrate of antimony was often employed in nauseating doses to lessen febrile excitement. Local and general blood-letting were had recourse to in some few cases; sponging with cold, but more frequently with tepid water, was much used, and also the warm bath. Stimulating gargles of various kinds were employed. Wine was given in a very few cases.

"On the whole, the facts observed lead to the inference that the febrile excitement seems to have been greater during this epidemic than the former. Of

* Observations on the Utility and Administration of Purgative Medicines, by James Hamilton, M. D. p. 196.

† Ibid. p. 194. ‡ Ibid. p. 193.

§ On Cutaneous Diseases, by Robert Willan, M. D. p. 393.

‖ Hamilton, p. 195.

the forty-five persons who had the fever, nine boys became affected with *dropsical effusions;* of these one died of *hydrocephalus*, and several were in considerable danger, some of them having laboured under convulsions and symptoms indicative of diseased action within the head, and others under symptoms of an affection of the viscera of the chest. The treatment of the dropsical affections consisted in the employment of general and local blood-letting, of strong purgative medicines, and of diuretics, particularly digitalis, with the frequent use of the warm bath, and occasionally of tartrate of antimony in nauseating doses.

"In 1836, of 207 inmates of the house, forty-three of the boys, and one male and one female adult took the fever. Of these cases, two boys died within forty-eight hours of the attack, and one in seven days, all of them from its *direct* and *primary effects*, and a fourth in thirty-three days from its *secondary consequences*, viz., *affections* of the *larynx* and of the *bronchial* and *mesenteric glands*. The fever, which had much more of a typhoid type than during the other two epidemics, was treated principally by purgative medicines and diaphoretics; in some cases by wine and cordials, and by the frequent use of the warm bath. Eight of the boys became affected with *dropsical swellings*, and *symptoms* indicating internal affections of the head and chest, from the effects of which several were alarmingly ill, but none died. This *sequela* was treated by free blood-letting, general and local; by powerful purgatives, and by strong diuretics, with the warm bath. Five of the patients, four boys and a female adult, suffered from *rheumatic affections*."—*Edinburgh Med. and Surg. Journ.* January, 1839.

25. *Extent of Prevalence and Mortality of the Epidemic Scarlet Fever in some of the Public Institutions of Edinburgh.* By Wm. Wood, F. R. S. E.

Year.	Hospital.	Inmates.	Cases of Fever.	Deaths.	Rate of Mortality.
1804	Heriot's,	140 { 120 Boys, 20 Adults, male and female.	50 Boys.	3*	1 to 16.66
1832–33	Heriot's,	206 { 179 Boys, 10 Male adults, 17 Female do.	45 { 44 Boys, 1 Fem. adult.	1 Boy.*	1 to 45
1835–36	Heriot's,	207 { 180 Boys, 10 Male adults, 17 Female do.	45 { 43 Boys, 1 Male adult, 1 Female do.	4 Boys.†	1 to 11.25
1835–36	Merch. Maid.	104 { 93 Girls, 11 Fem. adults.	21 Girls.		
1835–36	Trades' Maid.	53 { 47 Girls, 6 Fem. adults.	7 Girls.		
1835–36	J. Watson's,	132 { 64 Boys, 50 Girls, 18 Adults.	22 { 12 Boys, 10 Girls.	1 Boy.*	1 to 22
1835–36	G. Watson's,	95 { 76 Boys, 5 Male adults, 10 Female do. 4 Children.	16 { 15 Boys, 1 Child.	1 Boy.‡	1 to 16
1835–36	Orphan,	91 { 40 Boys, 40 Girls, 2 Male adults, 9 Female do.	23 { 3 Boys, 19 Girls, 1 Fem. adult.	None.	
	Total.	1028	229	10	1 to 22.9

"The number of the inmates of the Trades' Hospital, who suffered from the

* From dropsical affections.
† Three from primary fever, one from diseased mesenteric and bronchial glands.
‡ From primary fever.

fever, was, in all probability, materially affected by the breaking up of the establishment soon after its appearance there."—*Ibid.*

26. *On the Treatment of Scarlatina Anginosa.* By Dr. HAMILTON of Falkirk.—"I would remark, in the outset, that, in this disease, averages seem to me an exceedingly fallacious mode of estimating the rate of mortality attending different kinds of treatment, when these are applied to different epidemics, or even to those prevailing in adjacent localities. There can be little doubt, I think, that the type, in the circumstances above stated, varies so much as to render doubtful or to invalidate any conclusions that may be drawn from them. For example, the volatile alkali in the hands of Dr. Peart, and the capsicum gargle in those of Dr. Stephens, appear to have been considered as almost specific. Other observers, in other epidemics, however, have come to widely different conclusions. To the same effect, in the epidemic which prevailed in Edinburgh during the latter part of 1833, and the commencement of 1834, it was a common observation, that the cases occurring in certain localities, such as the Westport, Grassmarket, Cowgate, Pleasance, &c. were much more virulent in their type than those occurring in the New Town, or even than those which occurred in Heriot's Hospital, lying quite in the vicinity of the situations I have mentioned. It seems to me, therefore, that accounts of epidemics, or of modes of treatment, which do not furnish us with an exact detail of at least the leading symptoms of the cases, do not place before us the requisite data for drawing accurate conclusions.

"But if this be true, in regard to scarlatina as a whole. I believe it to be especially so when speaking of the state of the tonsillar inflammation; and I hold this opinion for two reasons; 1*st*, because the mere vague statement of "The throat being much inflamed," or similar general expressions, give us no available information, as this occurs in a large proportion of cases that would recover with even the simplest treatment; and, 2*dly*, because, out of a good many hundred cases of primary fever which I have treated, the fate of the patient, in a large majority, has appeared to me to depend upon the effect which the remedies employed produced on the affection of the tonsils. Indeed, I am quite inclined to think, except in malignant cases, that where this is moderate, or can fairly be kept under, the primary fever of the disease in question is in general a very manageable one. Independently of those cases which prove fatal, merely from the extensive sloughing of the tonsils and adjoining parts, every one who has seen violent epidemics, must have remarked how much the formidable secondary affections of the glands, cellular tissue, and even external skin at the angles of the jaws, as well as the tendency of the inflammation to spread backwards to the larynx and trachea, or upwards to the internal ear and brain, are influenced by the intensity of the inflammation with which the tonsils are affected. It becomes, therefore, I conceive, a matter of the utmost moment to ascertain accurately what are the most powerful means we possess for subduing this, in general the most prominent symptom of the anginose form of the disease.

"Before adverting to this point, however, it may be well to say a few words on the distinguishing characters of the tonsillar affection.

"The distinctive characters assumed by the inflammation of the tonsils in *scarlatina anginosa*, when compared, on the one hand, with severe cases of *cynanche tonsillaris*, and on the other with venereal or other common ulcers of the same parts, are, it appears to me, sufficiently well marked. In the cases of cynanche alluded to, the pain is from the commencement severe, and often becomes excruciating, the affection frequently terminating in the formation of abscess. In ulceration, again, the pain is either a raw feeling, or is felt principally when pungent substances are swallowed. These characters are materially modified in scarlatina. The pain, as long as the swelling does not extend to the surrounding parts, is, for the most part, comparatively moderate, even when the tonsils are enormously swollen. I have repeatedly asked patients thus affected, whether they experienced much pain in swallowing, and I have most generally been

answered in the negative. I have never yet heard the pain complained of as excruciating, and I have never once seen the inflammation proceed to the formation of internal abscess. When examined, also, the appearance of the parts is very different. In cynanche, it is not so much the tonsils themselves which are swollen as the anterior and adjacent parts, while, in the ulceration of the tonsils I have alluded to, little swelling occurs, and we see generally more or less clean excavations surrounded by inflammation. On the other hand, I would say, that the chief characteristic of *scarlatina anginosa*, is the inflammation, and particularly the swelling *of the tonsils themselves*. Of course the other parts of the throat are also inflamed, but this exists in other cases, and is most usually of secondary importance.

"Of the state of the tonsils in *scarlatina anginosa*, I think we may note three degrees. Of the first kind, are those cases in which the swelling of the tonsils is moderate, and their surfaces clean, the inflammation being apparently at the same time considerable. These are not usually dangerous cases. In the second degree, the swelling of the tonsils has increased a good deal, and we notice a whitish (or sometimes yellowish) secretion, principally at the openings of the ducts, but occasionally covering nearly the whole surface of the glands. This appears to be an albuminous substance. I have seen some of it which had been spit up; it was something like the white of an egg inspissated, but was perhaps tougher. The fever generally is more intense in examples of this description, and the cases altogether are more dangerous than those of the first kind. Examples of the third degree are presented to us, when the tonsillar swelling increases still farther, and ultimately ends in sloughing of a large portion of the glands. In severe cases, the tonsils often meet, and completely hide the *uvula* behind them. It is in cases of this last kind, I have no doubt, that by far the greatest mortality occurs.

"It will be noticed, that in none of these divisions have I mentioned ulcerations of the parts, which are so frequently spoken of by a great majority of modern authors; and I have not done so, because I doubt whether these form an essential part of, or are even common in, the throat affection of *scarlatina anginosa*. No doubt, when the tonsils slough, a solution of continuity occurs, but this happens only in the third degree, and most frequently at a more or less advanced period of the disease. The white albuminous matter seen in the second division, certainly does not generally cover ulcers, for I have often observed the tonsils covered with it one day, and quite free from it and clean the next; while, in cases that never pass beyond the first degree, or during the time that the other two divisions are passing through the first, the occurrence of ulcers on the tonsils is, I would say, from very numerous observations, exceedingly rare.* A person who examines the state of the tonsils superficially, especially when this inflammation is declining, is very apt to be deceived on this point; for we can then often observe a cup-like cavity, formed by the gland. An attentive examination of this, however, will show that it does not arise from ulceration, but merely from the centre of the swollen gland having sunk down more rapidly than the circumference. Nor is attention to this point of slight practical importance; for I am convinced, that by leading those who have not seen much of the disease, to imagine that the healing of these ulcers forms an important part of the local treatment, practitioners are apt to be betrayed into an inert and essentially erroneous practice. From all the observations I have made, I am inclined to think, that, in this disease, the inflammation attacks chiefly the tonsils themselves, whereas, in cynanche, it is the subjacent cellular tissue that is the principal seat of the affection.

"Having made these remarks upon the characters of this affection, I shall now make a few observations on its treatment. Most of the recent authors, who have written upon this subject, agree as to the advantages to be derived from the

* I except here minute abrasions of the surface, which I have seen sometimes on the uvula, soft palate, or lips, and which appeared to me to be produced when the nitrate of silver I had been using accidentally touched them.

application of the nitrate of silver. From my own experience, I would certainly say that it is a local remedy of more importance than all the others we possess taken together. Of course, from what I have already said, it will be understood that I do not, as seems to be the case with some practitioners, limit its application to the healing of ulcers which may appear,* or to the solutions of continuity that are the consequences of sloughing. The former must certainly require very few applications of the medicine, and if we wait till the latter has taken place, in order to apply it, I am afraid we shall often have to lament the inefficacy of this, as well as every other remedy. The important principle in using it, appears to me to be, to apply it to the tonsils, for the purpose of subduing the inflammation existing there, that is, with exactly the same views as we apply the same remedy in catarrhal or gonorrhœal ophthalmia. When this is properly done, either with a strong solution, or with the solid caustic, (the latter of which I generally prefer, from its greater portability and convenience,) we commonly find, if the case is recent, and not very severe, that its effects in restraining the inflammation and swelling are considerable.

"To do this remedy justice, my own observations would further lead me to say that it requires to be applied early in the disease. At first, I had some hesitation in using it before I had previously premised local bleeding, &c., for the purpose of subduing the intensity of the inflammation, I believe, however, that this caution was unnecessary, or even hurtful, by causing the loss of valuable time in the use of a less powerful remedy. The loss of twenty-four hours in the application of the nitrate, makes the most material difference in its power of controlling the inflammation. If it is not applied before the second day of the eruption, I have found that, in severe cases, great difficulty is frequently experienced in preventing sloughing from taking place. When applied on the first day of the eruption, its beneficial effects are much more evident; but I have found its influence most decided when it has been applied *before the eruption has made its appearance.* From my anxiety to get the caustic applied at as early a period as possible, I have been in the habit, for some time past, of regularly examining the state of the throat in all the other children of a family where one had already become affected; and I have been not a little surprised to find, that when the fever is about to be severe, the tonsils are invariably affected at least twenty-four hours before the eruption appears, and sometimes two, three, or more days previously. The day before the eruption appears, the tonsils, which may have been previously merely somewhat tumid or swollen, generally become considerably more so, at the same time that their colour changes from a pale to a vivid red. By watching these changes, I have commonly been able to tell within a few hours when the eruption would appear, even when there have been no other premonitory symptoms. It is most remarkable, indeed, that the premonitory symptoms in this disease bear no certain relation to the fever which is to follow.

"I recently took notes of a case in which the premonitory symptoms were excessively severe, expecting the fever to be so also, and yet this passed off very mildly, and the tonsils were only slightly affected. On the other hand, again, in the same family, I requested that a little girl might be sent for from school, in order that I might examine the state of the tonsils, scarlatina having affected another of the children for several days before this. On examining this girl's tonsils, I found them greatly swollen and inflamed—in such a state, indeed, that I had no hesitation in saying the eruption would appear within twenty-four hours, which proved to be the case; and instead of being mild, this turned out a very severe attack. Now, when I sent for this girl from school, she appeared well in every respect. Her pulse was natural; she had no pain of the head, or of the throat when she swallowed; there was no sickness or nausea; nothing,

* "Inspect the throat (in scarlatina) both carefully and frequently, and treat the ulceration there with dilute solution of nitrate of silver, or the chlorides."—Dr. Badham's concluding lecture in Med. Gaz. vol. xiv. p. 575.

in fine, but the state of the tonsils could have led me to the belief that a dangerous fever was so nearly impending.

"My practice, since I discovered the above to be the case, has been, every morning to examine the tonsils of those who were living in a family where scarlatina had appeared, and who had not already been affected by the disease. The instant I have discovered the tonsils beginning to be affected, as I have described, I have touched them with the lunar caustic, and I have continued to do this daily, until the fever has declined. The effects produced by it have been very decided. When a severe case has been thus treated, the progress of the tonsillar affection may in general be said to be as follows: On the day before the eruption shows itself, the redness and swelling become more decided than they have previously been; on the first and second days of the eruption, these are still more increased; on the third and fourth days, the inflammation and swelling continue nearly stationary, but the openings of the tonsillar ducts show more or less of the white albuminous matter which has been alluded to. After this, the swelling and inflammation begin rapidly to decline, and, about the eighth day from the appearance of the eruption, the glands have in general attained very moderate dimensions.

"If my observations are correct, it will thus be seen, that the early and continued application of the nitrate does not prevent this local affection from passing through what I have described as its two first degrees, but that it prevents it entirely from passing into the third, and by far the most dangerous stage, that of sloughing. The second degree, also, is, when thus treated, for the most part very moderate, the power of swallowing being usually little if at all affected.

"Of course this practice is appplicable, to its full extent, only where the disease has already appeared in a family. But when I compare the ease with which I have, by this means, been able to keep down the swelling of the tonsils, with the intractable nature of similar cases, which I have not seen before the second day of the eruption, it has forcibly impressed upon my mind the importance of applying this remedy, in every instance, at the earliest possible period."

As to the general treatment, Dr. Hamilton says that after the bowels have been attended to he has tried or seen tried no general remedies which appeared to him to have a decided effect in controlling bad cases of S. anginosa. "I have little doubt," he adds, "that nine out of ten of the cases that prove fatal, do so, directly or indirectly, from the state of the tonsils, and no general remedies I have used have seemed to me materially to influence this affection when severe. In the epidemic which I had an opportunity of treating in Edinburgh, in 1833-34, I tried general bleeding in some severe cases, but I must confess not with such success as to induce me to continue the practice. I believe, that when the pulse at the commencement is full and very quick, a moderate general bleeding may be used in this, as in continued fever, at least without disadvantage; but these, it is to be remarked, are not in general the worst description of cases, the pulse in the latter being often feeble or soft, and very quick even from the commencement. Where this is the case, I would say, from my own experience, that general bleeding requires to be used with considerable caution; and I confess I am not satisfied that even the profuse local bleeding which occurred in case second, was not rather hurtful than beneficial.

It will be observed, that I have used in all the cases related calomel and opium. I have done this for two reasons: 1st, because I have thought their joint action in determining to the skin might be beneficial; and 2dly, because it has always seemed to me important to guard against the occurrence of laryngitis, which, perhaps more than any other complication, is apt to occur in a bad state of the tonsils.—*ibid.*

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27. *On the Scarlet Fever Epidemic in Edinburgh in* 1835-36. By Charles Sidey, Esq.—Mr. Sidey's experience is derived from private practice, in which the disease presented itself in very different degrees of severity and complication. The cutaneous efflorescence was in some cases very slight, and only par-

tially diffused, whilst in others it was more generally or universally spread over the body. In a few cases it exhibited a kind of deep purple or livid-coloured patches. In several instances where the throat was severely affected, the eruption did not disappear for a much longer period than usual. The affection of the throat exhibited every possible gradation from the slight erythematous blush to a very formidable and destructive gangrenous inflammation. In the more severe cases, the internal surface of the throat presented at a very early period of the disease, an appearance like that which we could suppose to result from its being rubbed over with caustic potash. When the slough separated, the ulcers in the situation of the tonsils were, in several instances, so large and deep as to appear capable of admitting the extremity of the under finger.

More or less inflammation or congestion of the throat, Mr. S. considers essential to genuine scarlet fever.

The affection of the throat and skin showed little or no kind of direct relation in degree, one with the other.

The disease was most prevalent among the younger part of the population, but when it attacked adults, it was more formidable, more frequently and severely affected the fauces, and more rapidly run on to a fatal termination.

In several instances Mr. S. saw second attacks of the disease.

The *sequelæ* of the disease seldom assumed a very severe or dangerous character in the patients attended by Mr. S. which he ascribes to the rigorous antiphlogistic measures which he uniformly inculcated during the first weeks of convalescence.

"In four or five cases the secondary inflammation of the submaxillary glands went on to abscess, and in most of these instances, there occurred also a purulent discharge from the ear. In no case has the inflammatory disease of the ear produced such disorganization as to cause deafness.

"Seven only of the patients whom I have attended during the present epidemic have been attacked during convalescence with dropsy, or not one in twenty. In four of these, this secondary affection appeared under a very mild and manageable form; in a fifth it was very severe, though the patient ultimately recovered; in the two others it proved fatal. In above twenty cases, I have observed a form of secondary affection, with which I do not recollect to have met with any description in authors, viz. a kind of rheumatic swelling and inflammation of one or more of the joints of the extremities, as of the elbow and knee, the wrist, the ankle, and the hip. This affection of the joints, has appeared to me to have followed principally after the cases in which the skin was much affected. It generally supervened during the first days of convalescence, and was frequently attended with very considerable pain and suffering. I have been informed of one aggravated case, in which this secondary inflammation was seated in the elbow and wrist, and went on to the complete destruction of these joints."

The mortality in Mr. S.'s practice was seven in about 150 or 160 cases.

The treatment employed by Mr. S. he states to have been the following:—

"After, in the first instance, strongly inculcating attention to cleanliness, to keeping the patient cool, and his chamber well ventilated, I have insisted on the antiphlogistic regimen being strictly followed out with regard to diet, and have in addition forbidden the use of all kinds of fruits. I have made it also an invariable rule to keep up a continued action on the bowels, during the whole course of the disease, with gentle purgatives. The medicines that I have principally employed for this purpose have been combinations of calomel with rhubarb, scammony and James's powder, and infusion of senna with the sulphate of magnesia. Whenever the tongue puts on, in a very marked degree, the well-known and characteristic inflammatory strawberry appearance, I have deemed it necessary to act upon the bowels by mild means, as by castor oil, and warm emollient enemas. This point of practice I consider as of very great importance. The necessity of free purging has always appeared to me to be fully evinced by the very deranged state of the biliary and intestinal secretions, as manifested by the green, black, and tar-coloured evacuations which were produced.

"In the further treatment of the disease I have generally acted on the skin with the spirit of Mindererus, or tartrate of antimony, in a mixture containing a quantity of nitrous ether.

"I have also constantly employed either tepid sponging, or the warm bath itself, more frequently the latter. I have generally ordered the bath to be repeated twice or thrice during the day. It has appeared to afford great relief to the feelings of the patients, and was in many cases oftener repeated at their own urgent request. In using it, the body was merely dipped in it for a minute or two each time, and then quickly and thoroughly dried. A longer immersion seemed to produce fainting, or a great tendency to it, followed by shivering. If there appeared to be the least tendency to much affection of the throat when I was first called, or at any period during the continuance of the disease, I always instantly opposed it by free bleeding from the external fauces, by means of leeches, repeated or not, according to circumstances. After the leeches dropped off, I have generally ordered a warm poultice to be applied to the parts, and have on many occasions, where the throat was much affected, continued a succession of them during the whole course of the disease, alternated with the occasional use of the mustard poultice.

"As direct internal local applications to the inflamed ulcerated and sphacelating fauces, I have trusted principally to gargles composed of a solution of sulphate of zinc with some powder of carbon; and in other cases I have employed one of lime-water with a quantity of powdered cinchona diffused through it.

"A decoction of bran and one of these gargles was employed repeatedly during the course of the day, and in children so young as to be unable to use them, I have myself applied them, or ordered them to be very frequently applied, during the twenty-four hours, by injecting them against the diseased surface of the internal fauces, by means of the common syringe. I have found this to be a certain and, at the same time, an easy method of applying washes and solutions to the internal fauces in children, and one which is attended with comparatively but slight inconvenience to the little patients.

"I never found it necessary to employ wine or stimuli of any description in any of the cases that I attended.

"During convalescence, I have been careful to preserve the bowels in a favourable condition with the colocynth or rhubarb pill, and at the same time inculcated an adherence to the antiphlogistic regimen for some time, together with the most careful possible avoidance of cold. To insure this last important indication, I have generally insisted upon the necessity of my patients being provided with an under-dress of flannel before they left their beds. It is to the rigour with which these simple measures were enforced that I am inclined (as before stated) to attribute the small ratio of severe secondary affections that I have witnessed.

"Four out of the seven cases of secondary anasarca yielded readily to a repetition of active purgatives, with small doses of the nitrate of potass, and powder of digitalis, and rubbing the surface of the body with hot spirits. One of the cases was attended with convulsion, great difficulty of breathing, and stupor. The urine was highly albuminous, and contained likewise blood to a certain extent. He was treated with the usual diuretics, sinapisms over the loins, friction with hot spirits, and a few leeches applied to the lumbar region, the state of his constitution not indicating the use of the lancet. This case was seen by Dr. Christison, at whose suggestion diaphoretics were tried but without any marked advantage over the diuretics. The blood in the urine disappeared under the free use of the acetate of lead, and the patient is now in good health. The sixth case resisted this and every other treatment that was adopted. The patient, a boy of four years of age, presented no symptoms of internal inflammation, requiring the employment of general or local bleeding, but sunk under the dropsy in a chronic form." The seventh case was in a person who had formerly passed through the disease. During the second and fatal attack, the eruption was of a deep purple, and the fauces and nostrils were extensively ulcerated.—*Ibid.*

SURGERY.

28. *Fracture of the Acetabulum.*—The following case will be read with interest not only on account of the rarity of the injury, but also from the interest excited by the individual to whom the accident happened, and who was generally known as the "Wandering Piper." The case is recorded by Dr. Charles Lendrick of Dublin, in the *London Medical Gazette*, for March, 1839.

"Nearly a month since, at the desire of the Rev. Hugh Prior, I admitted this person as a patient into Mercer's Hospital. I was informed that he was of a station in life much superior to that of his occupation; but that, for reasons which could not be explained, he was not permitted to avail himself of his pecuniary resources, but was required to subsist either on the profits of his assumed trade, or on charity. His disease was phthisis pulmonalis, combined with acute inflammation of the hip-joint. He had received a severe injury by the upsetting of a mail-coach some years since, and had been then under treatment some months for (as it was supposed) fracture of the neck of the femur. Since that time he had been lame, but still able to take a great deal of exercise on foot, both here and in America. The acute attack commenced about two months ago. Just before his admission into the hospital, he had been under the care of Sir Philip Crampton, who often expressed his surprise at the slight amount of the shortening of the limb, which did not exceed half an inch. This circumstance was explained by the dissection.

"As there was nothing unusual in the progress of the case up to the time of his death, on the 17th February, nor in the post-mortem appearances in the thorax, I shall only allude to those of the hip-joint, the dissection of which was performed on the 19th instant, in presence of my colleagues, Messrs. Read, Auchinleck, Palmer, and Tagert.

"There had not been any fracture of the femur, although the state of that bone, forming the disease usually termed *morbus coxæ senilis*, presented at first the appearance of one. The os pubis had, however, been fractured, and the edges of this fracture, in overlapping, had caused, by their union, the rim of the pelvis to be shortened nearly an inch between the symphysis pubis and the inferior spinous process of the ilium. What was very remarkable a portion of intestine had adhered to the bone, probably being pinched between the ends of the fracture, and had remained permanently attached within a bony cavity, presenting the appearance of a hernia. The intestinal tube was, however, pervious; but the large intestines were of much smaller calibre than those usually termed "the small." The patient had not laboured under any abdominal symptoms during life.

"The ischium appeared also to have been fractured and to have become united. The femur had obviously protruded through the rent in the acetabulum, and had entered the pelvis. A bony case had been formed for its head; but a portion, about the size of a shilling, was uncovered, except by ligament. The round ligament of the joint was perfect and the other ligaments were thickened. Ulceration of the cartilage of the head of the femur had obviously commenced; and to this, and probably to the irritation of the obturator nerve by a spicula of bone which had formed about it, the excruciating torment which the patient lately suffered might be attributed.

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29. *On the Pathology of Burns and Scalds.* By Samuel Cooper, Esq.—It is to Baron Dupuytren that we are indebted for the first correct and important explanation of the pathology of burns; a subject which, as throwing light on the symptoms, and tending to improve the practice adopted in some stages of these injuries, I deem highly deserving of farther investigation. In this hospital, you are aware, gentlemen, that no opportunity has been omitted, of prosecuting the inquiry by post-mortem examinations. The particulars of some of these I now proceed to remind you of.

Scald of the Chest followed by Ulceration of the Duodenum.—Hannah Latter,

ætat. 8, was admitted December 18, 1838. About five weeks prior to this date, she met with the accident, for which she was attended by a private practitioner, who covered the injured parts with flour. The case went on promisingly for three weeks, at the end of which she began to void a great deal of blood from the rectum. At the time of her admission she was in a most reduced and emaciated condition, and died on the 20th.

Post mortem appearances: Abdomen.—An ulcer, of about the size of a shilling, in the duodenum, just beyond the pylorus; the deficiency in the parietes of the bowel being supplied by the subjacent portion of the pancreas. Blood was found in various places within the small intestines.

Chest.—Organs healthy.

Head.—Not examined.

Extensive and deep Burns of the Limbs.—Congestion of the Lungs and Brain, and Effusion of Bloody Serum.—Amongst the cases of burns brought to the hospital this winter, I may next notice that of Hannah Austin, ætat. 5, who, in consequence of her clothes catching fire, was burnt on the left hand, arms, thighs, and legs. On her admission there was great depression of the system, coldness of the skin, and languor of the circulation. The feet were therefore fomented, and some warm drink given. Flour was applied in the usual way.

On the day but one following her admission, the child became comatose, and sunk. Before death, Mr. Taylor detected the existence of bronchitis.

Sectio cadaveris.—An accumulation of bloody serum in the cavity of the right pleura; the lungs highly congested, and loaded with blood; the mucous membrane of bowels pale; vessels of the brain exceedingly turgid, and a large quantity of bloody serum at its base.

Burns on the Abdomen, Chest, Arms, and Occiput, followed by Ulceration of the Duodenum, and vomiting of Blood, &c.—Mary Wright, ætat. 3, was admitted into University College Hospital, with several burns of the above-mentioned parts. As she was somewhat collapsed, warm stimulants were given, and the burns dressed with flour. The next day vomiting came on, and for four days the child voided from the stomach, considerable quantities of a dark brown fluid, and complained of severe pain in the epigastrium. On the following day, she vomited up blood, and, on the next, died convulsed.

Sectio cadaveris.—Traces of peritoneal inflammation on some of the intestines. On raising the stomach, a large clot of blood was observed between it and the mesocolon, circumscribed by adhesion of the adjacent peritoneal surfaces. On breaking the adhesions, and separating the coagulum from the duodenum, the contents of this bowel became effused through an ulcerated aperture, of about the size of a halfpenny, which was situated in the posterior part of the intestine, close to the pyloric orifice of the stomach. A quantity of coagulated blood was found in the latter viscus, and also in the duodenum and ileum; and, besides the ulcerated opening, there were three additional ulcers in the duodenum.

Burn of the Neck, Chest, and Arms, followed by Congestion of the Veins in the Abdomen, Ulceration of the Stomach, Pneumonia, &c.—Matilda Fitzwaylet, ætat. 9 years, was admitted January 17, 1839, with an ulcerated surface extending over the front part of the neck, chest, and arms, and occasioned by a burn, which happened three weeks previously to her admission. Symptoms of bronchitis had prevailed more or less ever since the accident. On the fifth and sixth days after her entrance into the hospital, the difficulty of respiration became very great, and she died on the seventh, four weeks after the occurrence of the burn.

Sectio cadaveris.—In the abdomen the veins were all found very much congested. There was an ulcer in the stomach, nearly cicatrized.

In the left side of the chest, old adhesions of the pleura observed. The lungs were highly inflamed, congested, and almost hepatized. The bronchial mucous membrane was much inflamed, and contained a purulent secretion.

A small quantity of fluid was found under the arachnoid membrane.

Remarks.—That many persons who meet with burns die comatose, or else with great difficulty of respiration—asthmatic symptoms, as they were called—

were facts well known to surgeons many years ago. The cause of coma was not, however, attempted to be explained, as it might correctly have been, by reference to the congestion of the vessels of the brain, and the effusion upon or within that organ, as subsequently demonstrated in post-mortem examinations; while the old practitioners, instead of looking at the congested and even inflamed lungs, by which they would have been able to account rightly for the oppression of the breathing, ascribed the latter frequent consequence of a burn to sympathy between the lungs and the injured skin. This was the doctrine which I used to hear inculcated by Abernethy.

The post-mortem examinations made by Dupuytren, of individuals who died of burns, threw quite a new light upon the subject. They proved that, when the sufferer perishes in the flames, or shortly after being removed from them, marks of excessive congestion are usually observable in the intestinal canal, although there has not been sufficient time for inflammation to commence. Not only does the mucous membrane exhibit bright red patches—not only is it gorged with blood, but the bowels contain a quantity of this fluid, which has been extravasated. He describes the brain as being largely injected with blood, and the fluid in the serous cavities of the body as presenting a reddish colour. He represents the mucous secretion of the bronchial tubes as also bloody, and their investing membrane as exhibiting a bright red colour, and streaked with highly injected capillary vessels. It seemed to him as if the blood, suddenly repelled from the skin, made an effort to escape through the pores of every internal surface.

Our second case exemplifies the truth of most of these observations, with the exception that *the mucous membrane of the bowels was pale*, though the lungs and brain were much congested, and a bloody serous fluid was copiously effused within the cranium and the chest.

Dupuytren found that, if the patient died between the third and eighth days after the receipt of the burn, traces of inflammation of the bowels, lungs, and brain, were commonly noticed; but if the patient sank at a later period, or in the suppurative stage, the mucous membrane of the intestines was generally studded with patches of redness and ulceration, and that sometimes the mesenteric glands were enlarged.

As we have not met with such enlargement of the mesenteric glands in our post-mortem examinations of burnt patients, a doubt is left in my mind whether such enlargement, as remarked by Dupuytren, depended upon the burn, or upon the effects of scrofulous disease existing previously to the accident.

The entire perforation of the duodenum by ulceration, exemplified in our first case; the adhesion of the margins of the ulcerated opening to the pancreas; the discharge of great quantities of blood from the rectum before the patient sunk; and the blood found after death within the intestinal canal, and, no doubt, the source of which was the considerable ulcer in the duodenum; appear to me to be circumstances all deserving to be well remembered.

The vomiting, in our second case, first of a brown fluid, and as early as the sixth day, of blood; the death of the patient at the end of the first week; the presence of several ulcers in the duodenum at this early date; its actual perforation in one place by the ulcerative process; and the presence of blood in the stomach, duodenum, and ileum, after death, are so many facts of great interest in relation to the pathology of burns. Dupuytren's observations would not lead us to expect ulceration of the bowels so early. As for the vomiting of blood, and its discharge *per anum*, I am not aware that he has adverted to these occasional consequences of burns at all.

Our last case, besides exemplifying several effects arising from visceral inflammations, presents us with an instance of an ulcer of the mucous membrane of the stomach nearly cicatrized.

These post-mortem investigations seem to me, gentlemen, not only to elucidate the causes of various symptoms, observed to follow burns, but to suggest the question, whether, in the stages of burn, attended with congestion, or actual inflammation of important internal organs, the taking away of blood from the

patient would not be the most likely means of saving the patient's life. In France, I know that the use of leeches, in certain stages of burns, is advocated by some surgeons, as much as they are by certain practitioners here, in the commencement of an attack of erysipelas. In the period of reaction, between the third and eighth days, when the pulse is strong, and there is evidence of visceral inflammation having come on, what measure is so likely, I ask again, to save the patient? Let the result of a moderate abstraction of blood be first ascertained; and, if it be favourable, let the evacuation be repeated with circumspection.—*Lond. Med. Gaz.* March, 1839.

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30. *Complete Anchylosis of the five superior cervical vertebræ to each other, and complete dislocation backwards of the fifth from the sixth, without fracture.*—The possibility of the occurrence of complete dislocation of the vertebræ without fracture, the first and second cervical vertebræ excepted, has been doubted by high surgical authorities. The cases recorded by Lawrence, Sir Charles Bell, Rush, and Ehrlich, and the following related by Mr. S. S. Stanley, are sufficiently conclusive to show that such doubts are wholly unfounded.

A seaman, ætat. 37, fell backwards on his head on the deck. Immediately afterwards he complained of severe pain in the back part of his neck and between the shoulders, and of pain and numbness in the arms; his face was pale, pulse weak. Under the influence of stimulants he rallied for a short time, but subsequently sunk and expired fifty-five and a half hours after the accident.

The *post-mortem* examination showed considerable ecchymosis on the posterior surface of the body from the occiput to the seventh dorsal vertebra, and on dividing the integuments, a quantity of blood was effused into its texture. There was also considerable displacement *backwards* of the fifth from the sixth cervical vertebra *without fracture*. The little finger could easily be passed underneath the last-mentioned vertebra, into the spinal canal; the body of the fifth pressed severely on the spinal cord, and rested on the laminæ and spinous process of the sixth cervical vertebræ. The ligaments and intervertebral substance were all ruptured, and, when suspended from above, the parts were held together by the vertebral arteries and spinal marrow, with its theca alone, the theca vertebralis being uninjured.

The whole of the cervical vertebræ from the atlas down to the seat of dislocation, were completely anchylosed. Not the least vestige of ligamentous structure could be observed, with the exception of the capsular and occipito-atlantal ligaments; the capsular ligaments and synovial membranes, when cut into, were found to be so much thickened and altered in structure, as more to resemble cartilage than ligament. No trace could be found whatever of the apparatus ligamentosus and lateral ligaments, connecting the occiput with the atlas; neither was there any thing remaining in the form of the ligaments which complete the articulation between the atlas and axis; but Nature, ever bountiful, had formed a beautiful provision for the absence of the transverse ligament, by an isthmus of bone, extending from the anterior aspect of the odontoid process to the posterior concave surface of the anterior arch of the atlas; thus, in most respects, answering every purpose for which the transverse ligament is known, although placed in a situation diametrically opposite.

The most remarkable feature in the whole preparation, and the result of a former dislocation forwards, is the position of the atlas; which, on the right side especially, is pushed forwards and upwards from off the articulating surface of the axis, so as to cause the odontoid process to present itself nearly in the centre of the circle of the atlas. A bridge of bone exactly half-an-inch in length, and varying from three to four lines in breadth, passes nearly horizontally forwards, from the odontoid process to the atlas, and connects them together; the axis is also pushed forwards in the same manner from the third cervical vertebra, but not to so great an extent. Its length, measuring anteriorly from the superior margin of the ring of the atlas to the inferior margin of the body of the fifth cervical vertebra, is three-and-a-half inches. The diameter of the spinal foramen of the atlas, from behind forwards, is exactly one inch and four lines, and the trans-

verse diameter one inch and half a line. The odontoid process, instead of terminating at its apex in a point, as it generally does, presents a broad and irregular ovoid form, measuring, transversely, half an inch, and from behind forwards, including the bony bridge alluded to, one inch; its length is three-fourths of an inch, and its distance from the posterior arch of the ring of the atlas only four lines.—*Lancet*, 23*d* February, 1839.

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"*Causes of fractures of the ribs. External causes.* The opinion generally maintained, that fracture of a rib takes place *almost always towards the middle of the rib*, is stated to be incorrect. M. Malgaigne says that the majority of such fractures are seated in the anterior half of the rib. Direct causes may produce their effects on all parts; but the anterior parts are the most exposed to their action, the posterior portions being protected by muscles and by the scapula; the middle, by the arm and the shoulder. And with respect to indirect causes, M. Malgaigne has very often tried to break the ribs by a sudden and forcible pressure on the sternum, but the fracture has always been in the anterior half, and generally nearer to the sternum than to the middle of the ribs. Several reasons may be given why this should be the case. The posterior extremities of these bones being more elevated than the anterior, if, for example, the heel is pressed upon the sternum, on a level with the insertion of the sixth rib, the pressure corresponds posteriorly almost with the level of the tenth rib. The first effect of the pressure upon the anterior extremity of the rib is to force it backwards and downwards simultaneously; that is to say, to diminish in one direction, but to increase in another, the interval which separates the extremities of the bone. When fracture takes place, therefore, it is not in consequence of simple increase of the curve, but because of the twisting which results from the depression of the anterior extremity. As this movement takes place especially in this extremity, it is quite natural that it should more particularly suffer. Again, the anterior pressure acts upon the sternum beyond the anterior extremity of the rib, prolonging the arch in this direction; but the posterior pressure acts particularly on that part of the bone which is just anterior to the angle, and which projects so much behind, that the body rests upon it in decubitus. Now, these two circumstances explain why the centre of the arch, the curve of which is increased by the fracturing force, is much anterior to the centre of the bone. And, lastly, anatomy indicates and experience reveals another reason of the fact above stated. Pressure does not act on all the ribs simultaneously; and those which are not pressed upon, supporting the others, prevent them from yielding as much as if they were isolated. Thus, for example, press with the hand upon the sternum, on a level with the sixth rib; the sternum sinks, and, at the same time, approaches the vertebræ. But, increase the pressure, the bone does not sink any further, and its superior extremity, held firmly by the ribs, remains almost immoveable, whilst the inferior is pressed towards the vertebræ. The ribs follow this movement unequally; the sixth rib, being more directly subjected to pressure, bends more; the seventh and the fifth, somewhat less, and so on. So that the point at which flexion commences varies with each rib, and consequently, cannot be always the centre of the arch which they describe, and, lastly, this point of flexion cannot be very far separated from the sternum, because of the resistance of the neighbouring ribs. From this binding together of the ribs when they resist pressure on the sternum, it happens that in almost every case several ribs are simultaneously fractured, when the cause of such fracture is indirect; and,

patient would not be the most likely means of saving the patient's life. In France, I know that the use of leeches, in certain stages of burns, is advocated by some surgeons, as much as they are by certain practitioners here, in the commencement of an attack of erysipelas. In the period of reaction, between the third and eighth days, when the pulse is strong, and there is evidence of visceral inflammation having come on, what measure is so likely, I ask again, to save the patient? Let the result of a moderate abstraction of blood be first ascertained; and, if it be favourable, let the evacuation be repeated with circumspection.—*Lond. Med. Gaz.* March, 1839.

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on the other hand, as these fractures always take place in the anterior half of these bones, a series of fractured ribs in the vicinity of the sternum, excepting where they may have been caused by the wheel of a carriage passing over the ribs themselves, are almost inevitably dependent on an indirect cause. Many individuals suffered fractures of the ribs in an enormous crowd, assembled on the Champs de Mars, in 1837. Of twenty-three who died, seven had fractured ribs. The number of ribs which were broken varied from two to thirteen in the same individual; and all the fractures were anterior, and between one inch and a half and two inches and a half from their cartilages. But a single rib may be broken by an indirect cause; in which case the pressure has acted solely upon the cartilage, or upon the extremity of this rib.

"With regard to the *internal causes* of fracture of the ribs, we can here only allude to several cases, which M. Malgaigne has collected, of fracture taking place during cough, in cases where there does not appear to have been any peculiar fragility of bone. The individuals to whom the accident happened were all, however, somewhat advanced in years. Drs. Gooch and Graves are alluded to by the author as having published cases of this description. In a diagnostic point of view, the fact, possibly of less rare occurrence than is supposed, should not be lost sight of.

"There are three principal kinds of fractured ribs: 1. *Incomplete fractures.* 2. *Simple fractures.* 3. *Multiple fractures.*

"1. *Incomplete fractures.* These may occupy the inferior or superior half of the bone, or the internal or external surface. Fractures of the latter kind are simple or multiplied, most generally affecting the internal table, but sometimes the external alone. Direct or indirect causes produce them, and several ribs are commonly affected at the same time. These fractures are so readily produced, either upon the entire corpse, or upon a rib isolated and separated from the soft parts, that it is difficult to resist the inference that incomplete fractures of the ribs are of much more frequent occurrence than we appear justified, from our actual knowledge, in supposing them to be. Two causes may account for our inability to decide this doubt: the negligent mode of diagnosticating fractured rib, and the infrequency of autopsies. But there are cases of incomplete fracture on record, occupying the various situations already mentioned. Such cases are detailed by M. Malgaigne.

"2. *Complete simple fractures.* These are either oblique or transverse, the fracture being clean: or they are very irregular, each fractured surface being covered with projecting points and angles.

"3. *Multiple fractures.* These fractures, although scarcely recognized, are probably as frequent as the second variety. The double fracture is sometimes incomplete. Complete fracture may be associated with an incomplete fracture, or the fracture may be complete in two situations, or there may be three or even four fractures in the same rib. In the "Musée Dupuytren," two anatomical specimens are preserved, where several ribs are broken together; in one case, all the fractures are simple; in the other, they are double. Of nine anatomical specimens, in the possession of M. Malgaigne, five exhibit a consolidated simple fracture; two present double complete fractures of the same rib, the middle fragment being from three to four inches in length; one shows the traces of three fractures, the hindermost of which, close to the angle of the rib, appears to have been complete, and the other two, half an inch and four inches anteriorly, are incomplete. In the last specimen are traces of four fractures: one towards the angle of the rib, complete; a second incomplete, and half an inch more anterior; and others, more anterior still, which appear to have been complete. The callus of complete fractures may be readily distinguished, however small may have been the displacement: it surrounds the rib like a rough and projecting ring; whilst in incomplete fractures the external face (unbroken in all the specimens seen by M. Malgaigne) shows no vestige of bony deposite, and the imperfect ring of callus is only seen on the inner surface or on the borders of the bone.

"*Displacements to which fractured ribs are subject.* In the *incomplete fractures*,

when there is but a fissure in the bone, whether longitudinal or transverse, there is no displacement. M. Malgaigne broke off the inferior border of the rib with the blow of a hammer, and here there was displacement; and he has a specimen of a fracture of the internal table and diploe, effected by himself, the external table being somewhat depressed opposite the fracture, a depression which would probably escape observation on the living subject. But the most important circumstance in this specimen is, that the anterior fragment of the inner table projects inwards about a line, and that this projection cannot, by any movement, be replaced. By compressing the extremities of the rib, so as to increase its curve, the internal fragment was in some degree replaced; but whilst increasing the pressure, so as to complete the reduction, the external table was broken, and the fracture then rendered complete. A similar result was attained from fracturing the external table and the diploe, without injuring the internal table. A fragment projected externally, which could not be reduced by any means. M. Malgaigne has an anatomical specimen representing, he thinks, this fracture; and he supposes that such an external projection might take place as to be evident, on examination, through the soft parts. The author forced in the seventh rib by a violent blow with a hammer. In the situation of the blow, an angular concavity could be felt, instead of a fracture: the internal table was broken in two points, separated from one another about two inches and a half, and the fragment resulting from this fracture was only adherent by its centre to the rib. Cheselden speaks of having found, in autopsies, upon the external surface of the ribs, an impression of the thumb and four fingers of nurses. It is supposed that the condition of parts may have resembled that just described. M. Malgaigne does not maintain that, even in multiple fractures of this kind, displacement always takes place. When the depression affects several ribs, as happens from the wheel of a carriage, the diagnosis is immediately evident. A depression of various extent and size exists; and if, in examining it with the fingers, no projection of any fragment is felt, if the pressure increases for an instant the depression, without producing any projection, the existence of an incomplete multiple fracture of the internal table may be diagnosticated.

"In the *simple complete fractures*, there may often be no displacement, when, for instance, the periosteum is untorn, or the fracture very serrated; but displacement as often occurs, although, frequently, not to such a degree as to be perceptible through the soft parts. Of such displacement, M. Malgaigne has described examples in his possession. In one case the posterior fragment projects inward for nearly a line, and upwards in about the same extent. In a second, the displacement is of the anterior fragment, downwards and backwards about a line. A third shows a projection of the posterior fragment outwards. In one specimen, preserved by Dupuytren, several ribs are affected with simple fracture; the fracture is oblique, from one border to the other, but in opposite directions, and the displacement varies in consequence; thus, in the first of the broken ribs, the anterior fragment projects upwards; in the second, it is depressed beneath the posterior; and in the third, the displacement is similar to the first. In a skeleton, some of the ribs of which had been fractured during life, at about four fingers' breadth from their cartilages, the appearances were as follows: The anterior fragment of the fifth was carried inwards and downwards, the superior interosseous space being evidently diminished backwards; the anterior fragments of the third and fourth were depressed inwards; there was no displacement of the second, and the fracture could only be estimated by the roughness of the callus. Others have noticed such union as clearly indicated displacement: some attributed this to the treatment employed, the pressure recommended by Petit. But this explanation is inadmissible, as evidence of displacement exists when no such treatment was employed. Similar displacements are effected by blows upon the sternum and ribs of the corpse - experiments which have been frequently made by M. Malgaigne.

"*Multiple fractures.* These, when complete, sometimes occur without displacement; more commonly there is displacement of one of the fragments, the other remaining almost in place; and sometimes all the fragments are simultaneously

displaced. M. Malgaigne regards external violence and the configuration of the fracture, as the causes of the displacement. An external shock, for instance, partly fractures a rib: it acts first by thrusting it inwards; a greater force breaks the internal table and diploe, the denticulated form of the fractured surfaces prevents the return of the rib to its original position, and hence there remains a depression of the unbroken external table of the bone. Is the fracture complete? If the fracture is transverse and smooth, there is commonly no displacement, the bone returning, by its elasticity, to its original situation. But exception must be made for fractures occurring very near the sternum; partly in consequence of the ligamentous attachment of the ribs to this bone, the anterior fragment moving inwards and outwards, and which, when it has been carried inwards, has not, in consequence of the articulation, the elasticity of the posterior fragment. The case is similar, where a broken portion has become bent by a second fracture, either complete or incomplete; there remains no elasticity by which it may regain its position. When the fracture is oblique, the direction of its obliquity commonly determines that of the displacement. The denticulated extremities of fractured ribs are the most frequent among the causes of continued displacement: but with regard to fractures near the sternum, a special cause of displacement in a certain direction exists, and which also tends to reproduce displacement when it has been remedied. Pressure upon the sternum depresses the sternal portion rather than the other, and this pressure tends also to carry it downwards, motion in the two directions sometimes coexisting. This (the sternal) portion being depressed, the posterior fragment projects simply because it remains in its place. Decubitus on the back, a circumstance well deserving the attention of the surgeon, augments this projection, the posterior fragment of the ribs being pushed forwards; and if the patient lie upon the fractured side, there is still greater projection. The nearer the fracture is to the sternum, the more evident are these circumstances, and most particularly in fracture of the cartilages. M. Malgaigne has found, in the last case, that by varying the pressure upon the ribs, the anterior or posterior fragment might be made to project; a fact from which he has derived a method of treatment, to be noticed.

"The *diagnosis* must be inferred from what has been said concerning the kinds of displacement. It is frequently very difficult, and always requires very great care. There are some special causes of error, which should be borne in mind. The insertions of the obliquus descendens and serratus magnus muscles might give rise to the notion of displacement, in consequence of their abrupt projection beneath the finger, especially when pain causes any spasmodic contractions in these muscles; and in some subjects there are remarkable projections at the union of the cartilage with the bone of the rib.

"*Treatment.* The treatment of fractured ribs is shown, by what has preceded, to be less simple than most surgeons have conceived it to be. The fractures without displacement require only to be kept at rest; those with displacement, and which are not disposed to be displaced when reduced, require reduction, in addition; and when there is a tendency to displacement after reduction, there is a third indication to fulfil, i. e. to prevent such secondary displacement.

"1. *Means of keeping the ribs immoveable.* The rules laid down for using the bandage for the trunk are, that it is indispensable when it alleviates pain caused by respiratory efforts; that when there are no such pains, it is needless to employ the bandage; and that if pain continues notwithstanding its use, it is both useless and injurious. In individuals with a large chest and vigorous constitution, the circular bandage is safe. M. Malgaigne prefers the following mode of applying it. Surround the chest, first of all, with a common bandage, and apply over this a piece of cere-cloth (sparadrap), about three fingers broad, and sufficiently long to pass twice round the body. But in feeble individuals, with narrow chests, agitated by chronic coughs or paroxysms of asthma, the indication is to confine the constriction to the injured side; an indication which it is not easy to fulfil. Decubitus upon the injured side would be very useful, could it be borne: if not, a demi-cuirass, made by soaking a bandage in an amylaceous

decoction, might fulfil the proposed indication. But on this point M. Malgaigne only throws out suggestions, not having made it the subject of experiment. But he tried, in the following manner, to limit the action of the thorax by bands of cere-cloth (sparadrap). The commencement of one band was appplied on a level with the anterior extremity of the seventh rib of the right side, thence passed around the left side of the thorax, beneath the left scapula, and over the right shoulder: from this point it was passed a second time around the left side of the thorax, ending on a level with the crista of the right ilium. The costal respiration of the left side was thus evidently impeded, whilst it continued quite free on the right side. It would appear that the left ribs might be much more directly acted upon, by surrounding them with an oblique bandage, the two ends of which should cross one another at the right hip; but in this case the anterior part of the bandage, by compressing the abdomen, would interfere materially with the diaphragmatic respiration, which it is very important in these cases properly to manage. Or again, one side of the thorax might be acted upon by means of the spring of a hernial truss, the sternum and the spine being points on which the spring should press. A strap passing over the opposite shoulder might be used to support this, and, if necessary, a large vertical splint might be placed between the centre of the spring and the convexity of the ribs. This apparatus is applicable for the fulfilment of another indication, hereafter to be noticed.

"2. *Means of reducing the displaced fragment.* In simple or double fractures, with depression of one fragmeut, the indication may consist only in elevating the depressed portion. But in some cases there is an actual projection of the other fragment outward, produced by the bad position of the patient; but change of position suffices to rectify this. With regard to the former indication, M. Malgaigne observes that he had frequently tried the experiment on the corpse, of pressing gently downwards the fragment which remained in its proper situation, until it came in contact with the depressed fragment. He found that the inequalities of the two broken surfaces fitted into each other; and that, on removing the pressure, the elasticity of the rib brought back into its right position the former fragment, bringing the depressed portion with it. To effect this, certain conditions are necessary: if the fracture occupies the middle of a true rib, or is further backward, it is of little consequence which is the depressed portion; if it is more anterior, the posterior fragment alone possesses sufficient elasticity to produce the above effect, so that, were this fragment itself depressed, it would not be really elevated. With regard to the false ribs, whatever situation the fracture may occupy, the anterior fragment can only be elevated by means of the posterior. Fortunately, by virtue of this elasticity, the depression of the former is much more frequent than that of the latter. Two cases are related in support of these views of treatment, derived from experiment upon the corpse. In one of these, although the reduction was not accomplished, the manipulations caused a sudden and remarkable relief of pain, leading to the belief that some irritating portion of bone might have been removed from contact with the lung. Remarking on the cases alluded to, M. Malgaigne observes that it required but in a trifling degree to diminish the depression of one fragment to cause an instantaneous cessation of most acute pain, very probably by disengaging the lung from a fragment of bone which was pricking and irritating it, and bringing back the projecting piece beneath the costal pleura. It is to these depressed portions of bone that may be attributed the acute pains and the visceral inflammations which sometimes accompany fractured ribs; and if it is remembered that, frequently, whether the fracture be complete or incomplete, the displacement may not appear at all externally, whilst there is a considerable prominence of a portion of the inner table of the bone, we may be disposed to regard this circumstance as of more importance than has hitherto been the case. Morbid anatomy confirms (although not with much proof) the above explanation. M. Malgaigne contends that the necessity is almost as great for removing fragments of bone from the lung, as for removing them when driven into the brain. He alludes to the various methods which have been suggested for effecting this object; and he

suggests the following: to take a needle, covered like a tenaculum, to plunge it as far as the superior border of the depressed fragment, and thence to pass it over the inner surface, almost as far as the channel in which runs the intercostal artery, employing the instrument then as a simple elevator. The incision may be thus avoided; and such a puncture is very harmless.

"3. *Means of preventing return of displacements.* In fractures near the sternum, there is actual danger of this occurrence; and its causes are decubitus upon the back, and particularly on the injured side. The twofold indication is to keep the healthy side of the thorax forwards, so that the fragment which is attached to the sternum may be drawn in the same direction, and to keep up a constant pressure upon the portion which projects, equal in amount to the resistance afforded by the elasticity of the rib. The former indication is quite fulfilled in serious cases, by decubitus on the healthy side; and then, also, the little disposition of the ribs to move would render the second almost useless. But in less important cases, where the patient wishes to move about, and to walk, the two indications are fulfilled simultaneously by a truss for hernia, with a long spring, one extremity of which presses posteriorly upon the projection of the ribs, on the sound side; the other anteriorly, upon the posterior fragment itself. To obviate the injurious effects of prolonged pressure, compresses may be employed. —*B. & F. Med. Rev.* April, 1828, from *Archives Gén. de Méd.* July and August, 1838.

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32. *On the application of Raw Cotton to Erysipelatous Surfaces.*—M. Reynaud, chief surgeon of the French marine, and professor of clinical surgery has published a long paper in a late number of the *Journal des Connaissances Medico-Chirurgicales*, on the good effects of applying raw cotton to erysipelatous surfaces. He was led to try it in such cases, from its acknowledged utility in many examples of burns; all the forms of which, from a simple scalding of the surface to a complete adustion of the integuments, M. Reynaud has for a number of years treated with covering the parts with cotton. In the milder form of the accident, the cotton often soothes almost instantaneously the severe pain, and thus mitigates or checks the febrile excitement which is so apt to ensue; while in the more severe cases, although it does not prevent the suppuration and sphacelation, these processes usually go on more quickly and more favorably under its application. If the remedy is so decidedly useful in burns, we cannot be surprised at its utility in erysipelas. The burning, stinging pain of the disease, we are informed, very speedily abates, the surface becomes moist and perspirable, the swelling and redness diminish, and the skin recovers its healthy pliancy and softness, with little or no subsequent desquamation of its cuticle. The constitutional symptoms of erysipelas being always in a great measure proportionate to the severity of the local distress, they are necessarily much mitigated, and all the functions quickly resume their normal rhythm. M. Reynaud informs us that he has successfully used the cotton medication in all the various forms of erysipelas, idiopathic and traumatic, without regard to the seat or duration of the disease.

The modus operandi of this remedy is, according to him, by promoting a free exhalation from the surface, and by confining the moist and warm atmosphere, thus induced, around the inflamed surface. A steady and uniform temperature is thereby maintained, and the contact of the air and light—two potent stimulants of the skin—is prevented. The cotton application alone is not sufficient however, it must be admitted, in all cases of burns; nor ought it to supersede the use of other local remedies, when these are deemed proper.

When used, it ought to be well carded, and freed from all roughnesses or foreign bodies. The affected part should be enveloped in a moderately thick cushion of it, and a roller should be then passed loosely around, to confine it in contact with the skin.

Fourteen cases are narrated by M. Reynaud; in proof of the efficacy of the cotton application. In four of these the erysipelas affected the face. The constitutional treatment consisted in the use of blood-depletions, of purgatives and

refrigerant diuretics. The cotton was applied to the inflamed parts and kept in its place by the night-cap and by handkerchiefs. All the patients recovered. It is proper to observe, that none of these four cases appear to have been severe. In the remaining ten cases, the erysipelas affected the lower extremities.—*Med. Chirurg. Rev.* January, 1839.

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33. *Deafness from Disease of the Lining Membrane of the Tympanum.—Use of the Acetate of Lead.* The following interesting case of disease of the lining membrane of the tympanum relieved by the use of acetate of lead is related by Mr. Arnott in the *London Medical Gazette*, (April 13, 1839.)

Thomas Parker, ætat 19, was admitted into the Middlesex Hospital January 28th, with ulcer of the leg. He was deaf, and his countenance was characteristic of that infirmity. On an accurate examination of the degree to which this sense was impaired, a watch was employed, the ticking of which can be heard at the distance of 20 feet. Parker could not recognize it with his left ear further off than five inches; with the *right*, not further than nineteen. There was no redness, swelling, or rawness, of the parietes of the external meatus. Not the slightest appearance of wax in the left, and but a very trifling in the right ear. The membrana tympani in each was gone; the cavity of the tympanum in both was filled with a milky secretion, devoid of offensive odour. This having been in some degree removed by syringing the parts, the lining membrane of the tympanum was seen to be more tumid and redder than natural. The patient had been deaf since he was a child; he had always had more or less discharge from his ears, and had been told that some bones had come away. Repeated blistering, and a variety of injections, had been ineffectually tried by him.

Besides the destruction of the membrana tympani, and a loss of the bones of the ear, the chief existing morbid action seemed to be seated in the mucous membrane of that cavity itself, unconnected with disease of the temporal bone.

With the view of correcting this, a solution of the acetate of lead—six grains to the ounce of water—was ordered to be dropped into the ear twice daily, and the parts to be syringed with it once daily. Under this treatment the improvement was unexpectedly rapid. In five days the hearing distance of the left ear had increased from five inches to two feet ten inches; in the right, from nineteen inches to seven feet five inches; and (without taking the intermediate periods) in three weeks, in the left ear, to fifteen feet; and in the right to eighteen. Long previous to this, however, he was quite able to take part in conversation, and his countenance had assumed an expression of intelligence, most singularly contrasting with its former dulness and apparent stupidity. The discharge now ceased, and the lining of the cavity of the tympanum had lost that swollen and pulpy appearance it had previously presented. And probably connected with these changes, the patient was now able to cause air to pass from the throat out of the external ear, which in the first instance he could not do.

The acetate of lead is a safer application to the ear than the more powerful astringents; and the present case shows its beneficial effects in remedying a diseased state of the mucous membrane of the cavity of the tympanum. This diseased state removed, hearing was restored to a degree which, perhaps, you might not have expected, if you previously supposed the existence of the membrana tympani absolutely essential for hearing.

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34. *Congenital Club-Foot.*—A paper by Dr. Krauss, was read to the Medical Society of London which contains some views, worthy of notice. Dr. K. is of opinion that the anatomy of congenital varus is intimately connected with its cure, and believes, in opposition to Scarpa and Dr. Little, that the displacement of the astragalus is one of the principal and most characteristic symptoms of varus. The ascertainment of this displacement, whether it be of a primary or a secondary origin, was highly important, as on it were founded the two principal conditions of the mechanical instrument employed in its cure. With all deference to the merits of Dr. Stromeyer, he (Dr. Krauss) did not consider the methods and principles of that physician's practice to be so perfect as not to

admit of improvement. Regarding the Stromeyerian method of dividing tendons with two punctures of the skin, and with a concave or convex fistula knife, Dr. Krauss observed, that the convex knife could be used with advantage, only when the tendon to be divided was prominent, the skin covering it not too thin and tight, and the part to which the tendon was attached of small volume. If the tendon was not prominent, and more of a flat than of a rounded shape, it was difficult to encircle the tendon at once by a concave knife, and thus it was often preferable to use a short convex knife, with a straight back, if it was possible and required to press down the skin on one side of the tendon, in order to introduce the knife deep enough to pass through the whole of its body. Although it was of no particular consequence to make two punctures of the skin, yet, as the operation could be more easily performed by making one puncture, the former method need not be adopted. Dr. Little sometimes used a convex, sometimes a concave knife, for the purpose of dividing the tendo Achillis. Dr. Krauss considered that a concave knife was not convenient for that purpose, because the front surface of the tendon was flat, and its posterior surface convex; and, again, in dividing the tendon, even with a convex knife, the part of the tendon corresponding with its greatest convexity becomes divided the last. Dr. Krauss also objects to the mode of introducing the knife flatways, and then turning its cutting edge towards the tendon, for he says that by this proceeding the parts are apt to be injured by the turning of the blade of the instrument. It was inconvenient to place the patient in a chair when the tendo Achillis was to be divided, inasmuch as the back surface of the leg was not brought towards the face of the operator, and it was, therefore, impossible to make an accurate examination either during or after the operation. In proof of the justice of these remarks, Dr. Krauss referred to the fourth and fifth cases of Dr. Little, recorded in The Lancet, in which it was necessary for the operations to be repeated, in consequence of some fibrous strings remaining undivided by the first operation.

The mechanical part of the treatment of club-foot was by far the most important and difficult. He (Dr. K.) considered that the footboard of Stromeyer was deficient, as it possessed no proper means of fastening the foot, or of straightening the curve which the foot forms in varus; as it only acted by a fixed pressure, and did not admit either of the patient's walking or standing.

Dr. Krauss insisted upon the necessity of distinguishing accurately between congenital and non-congenital varus. In the latter, as the displacement and change of shape of the tarsal bones did not arrive at such a high degree; as the ligaments were looser, and as the deformity was almost maintained through the contraction of certain muscles, it followed that the cure was, in general, possible, up to the age which permitted the division of tendons; while on the contrary, the cure of congenital varus depended not only upon the age and constitution of the patient, but also upon the degree of displacement and change of shape of the tarsal bones, and the degree of the rigidity of the ligaments.

Dr. Krauss considered that bony vegetations did not often prevent the cure of varus; the articulating surfaces, it was true, had partly lost their polish, and were rough, but the efforts of nature powerfully assisted in polishing them again after the straightening of the foot had been effected. Indeed, he believed that there were few cases of congenital varus previous to the age of thirty which did not admit of cure. The cases of congenital varus cured by Stromeyer, and related in his recent publication, referred to children of one, two, and five years of age, only one as late as the ninth year being recorded, and in this the deformity existed only in a slight degree. In the case of congenital varus, presented by Dr. Little to the Society, at the first meeting of the session, as the most difficult he had cured, the foot assumed its natural shape in eight or nine weeks after the division of the tendo Achillis, and was, therefore, evidently a case of a slight kind. The means of curing aggravated cases of congenital varus consisted in a proper mechanical treatment, for which purpose the instruments of Stromeyer were insufficient.

Dr. Krauss has never had an opportunity of examining any tendons after division in the human subject, but he has made a variety of experiments on

rabbits and other animals, and he had found that the uniting substance was of a fibrous texture, the fibres running rather in a transverse than a longitudinal direction, and formed a structure quite as strong as the tendon itself. He had often found that the intermediate substance was of much larger volume than the tendon. In one case, in the human subject, in which he had divided the tendo Achillis, inflammation of the intermediate substance, of an acute character, set in three or four weeks after the operation. The new structure was, by this means very much thickened; the thickness was eventually considerably, though never entirely, reduced. In another instance he had felt the new tendon to be very hard to the touch, as though there was a deposit of cartilage in it; and, in another case in which inflammation and suppuration followed the division of the tendon, union eventually took place, but it was three months before the limb could be exercised.

Mr. Bryant said that the experiments just alluded to, differed in their results from those of Sir A. Cooper, who had found that divided tendons invariably united by bone.

Dr. Krauss replied, that as far as he knew, in the experiments on the division of tendons, made by various continental operators, bony union did not follow.—*Lancet*, 13th April, 1839.

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35. *Case of Ranula in which the left submaxillary gland was extirpated.*—The following operation performed by J. G. Malcomson, Esq., Ass. Surg. Madras Establishment, is so remarkable as to deserve to be put on record, though we would not wish by so doing to be supposed to recommend a recourse to it under similar circumstances.

"In the beginning of 1828, a sickly-looking Hindoo boy, nine years of age, was brought to Chicacole from an unhealthy hill district, on account of a swelling which extended from one ear to the other, over the angles of the jaw and to the sternum, near which it was more distended than above, and slightly pendulous, so as to admit of being raised from the skin covering the superior extremity of the bone; it was quite soft, and evidently contained a fluid. The disease commenced about a year before, below the jaw and a little to the left of the chin, and had gradually increased downwards, and up to the ears. The patient stated, that for some time before the appearance of the tumour, there had been a discharge of pus half an inch behind, and lateral to the mouth of the duct of the left submaxillary gland, where there was a depressed cicatrix, about a line in diameter, on the formation of which the swelling commenced. Near the cicatrix, there was a carious tooth. A very slight discharge of saliva from the left submaxillary duct could still be observed. There was no swelling in the mouth; but a hardness could be felt below the jaw, a little to the left side, and there were several scars in the centre of the swelling, caused by repeated applications of the actual cautery.

"I concluded from these facts, that the submaxillary ducts or gland having been inflamed, probably from the irritation of the diseased tooth, the passage of the saliva was interrupted, and making its way into the loose cellular substance of the throat, had gradually distended the integuments to the enormous size above described. In this view of the case, the following questions suggested themselves as to the probable termination of the complaint, if left to itself; viz. whether there was any chance of its ceasing to increase by the action of the absorbents, or was it more likely to separate the skin from the chest, or to burst into that cavity, the windpipe, or externally? There could be no doubt, on the most favourable supposition, that it would for ever prevent the patient from gaining his own subsistence.

"A tentative puncture was made into the most prominent part of the swelling, by which 20 ounces of a glairy, transparent fluid, of a light brown tinge, was discharged; a hard, movable substance was then felt within the integuments; it was extracted by enlarging the opening, and proved to be a part of the fluid which had become inspissated. The real nature of the case, and the absence of any other disease having been ascertained, the opening was left free, in hopes

that some contraction of the mass of loose skin would take place, and that a part of it would again adhere to the subjacent parts, but in consequence of the collapse of the sides, the discharge, which was mixed with blood and matter, was not free, and had to be pressed out every morning. The patient then absented himself for some days, during which the wound healed, the fluid again collected, and another puncture was made in consequence. After this the skin of the cheeks appeared to unite with the muscles, from which it had been separated, and the second object seemed in part to be gained; I therefore on being suddenly ordered to another station, recommended him to a medical friend, and instructed the people to squeeze out the secretion daily.

"I heard no more of him till the 15th of March, when he arrived at Vizianagram, and both he and his relations earnestly requested me to relieve him. The opening had again closed; a new puncture was made, and several ounces of fluid of a lighter colour, and thinner consistence than before, were evacuated. A tent was left in the wound, some inflammation followed, and a good deal of matter was discharged along with the glairy fluid; the skin contracted a little, but it was evident, that little could be expected from this plan. Having procured a very fine probe, I found it passed into the duct of the gland, and some saliva flowed from it: this diminished my confidence in the opinion I had formed of the disease, but convinced me, that it could not be cured by endeavouring to restore the communication by the mouth, and removing the swelling by puncture and pressure. I therefore resolved to remove a portion of skin constituting the front of the sac, ascertain if the fluid came from the gland, and take such farther measures as might be necessary.

"On the 30th, I placed him on a table, and punctured the tumour three inches above the sternum; and after the fluid was evacuated, cut away an oval portion of the skin (of the size of two and a half by two inches,) which was much thickened from the cicatrices of the cauteries and punctures. The throat now exhibited an extraordinary appearance: from behind the ears, over the angles of the jaw, and down to the chest, it seemed as if carefully dissected; the blue veins and parotid glands shining through the cellular membrane. I in vain looked for any opening, from which the fluid might come; the possibility of its being derived from the left parotid, or of its being an encysted tumour, whose sac had become condensed with the surrounding parts, at the same time occurred to my mind; in either of which cases nothing more remained, than to close up the wound, and to try what could be done by pressure. The cellular membrane in the mesial line had become condensed, and formed the hardness felt in the neck; it was therefore removed.

"Having examined with attention a soft round body, of the size and colour of a small lymphatic gland, partly embedded in the left submaxillary gland, I observed a very minute puncture, as if from the point of a needle, and on gentle pressure, a glairy fluid flowed from it. I immediately proceeded to separate the gland from the surrounding parts, which at first was not difficult; but on getting into the hollow of the jaw, it was more firmly attached, and the space was so narrow, that it was difficult to use the knife. A ligature was passed through the gland, by which it was drawn out; but it was still difficult to tie the vessels which bled. One very considerable vessel, (the lower maxillary,) was cut, the bleeding from which was stopped by pressure made on the carotid; but it could not be secured, until Lieut H., (who in the absence of another surgeon assisted,) put his thumb into the mouth, and pushed the gland downwards, which greatly assisted the rest of the operation. Then by passing a curved needle through the parts several times, and cutting between the gland and the ligature, the whole was removed, except a small process, which passed between the anterior belly of the digastric and the mylo-hyoideus muscles, and probably joined the sublingual gland; to this the actual cautery was applied.

"The operation took up a considerable time, in consequence of the delay, which took place before the gland was ascertained to be diseased, the faintness which several times occurred from loss of blood and pain, and the necessity of caution in cutting parts deep and out of easy reach. Four ligatures remained

on the vessels, the parts were carefully cleaned, and the edges brought together by three ligatures and plaster; compresses and bandages were applied, and thirty drops of laudanum given to the patient, who was put to rest.

"31*st*. Did not sleep from the opium; but rested well in the night. Complains of pain below the jaw. Ol. Ricini ℥ss. Cold water to the bandages.

"April 6*th*. On the 2d had a purgative, which removed a slight degree of fever which had come on; the tongue became clean, and his appetite returned. The greater part of the wound has healed, and there is very little discharge. Slight fulness at the lower part of the left side of the neck.

"10*th*. Fulness has increased, the part is painful, and fluctuation is evident; great anxiety is expressed regarding this, as the swelling originally commenced on the same side; it, however, has now the character of an abscess. The wound has healed, except at the ligatures, one of which, and the sutures have come away. A poultice is applied to the swelling, and the diseased tooth extracted.

"11*th*. The cicatrix in the mouth has opened, and discharges matter, and a probe passes one and a half inches down.

"12*th*. The swelling having pointed, it is opened, and some exceedingly offensive pus, mixed with brown matter, is evacuated.

"The poultice was left off in a couple of days, and compresses were applied over the cavity of the abscess, and the incision kept open by a tent. Under this treatment, it healed rapidly; a little discharge from the opening in the mouth continued some time longer. I did not see him again till the 27th, when he was quite well; the cicatrix in his throat was very small, and did not disfigure him; the opening into the mouth had healed, and a minute portion of saliva flowed from the duct of the submaxillary gland, on the left side, probably from the sublingual gland."—*Trans. Med. and Phys. Soc. Calcutta*, Vol. VIII. p. 1.

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36. *Suetin's Immovable Fracture-apparatus.*—Dr. Fricke of Hamburgh relates in the *Zeitscrift fur die g. Med.* for April 1838, sixteen cases of Fracture successfully treated by this apparatus. He waits until the swelling and inflammation have subsided before applying the bandages.

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37. *Case of Extensive Aneurism by Anastomosis, in a child ten months old, involving the branches of the Temporal and posterior Auricular Arteries, treated successfully by the Twisted Suture.*—A very interesting case of this is recorded by Dr. J. Maclachlan in the *Edinburgh Med. & Surg. Journ.* for April last. The subject of it was a remarkably fine, stout, healthy female twin child, who was observed, a fortnight after birth, to have on the right temple a small reddish flat mark, not much larger than a pin-head. The discolouration slowly spread, and gradually rose above the surface. When seen by Dr. M. in the fifth month, there was in front of the right ear, immediately above the zygoma, a tumour possessing the character of aneurism by anastomosis, extending upwards for about an inch, and being half an inch in breadth. There were several small flat livid spots behind the ear and about the cartilages. In two months the tumour had rapidly increased in every direction. It had ulcerated superficially behind the ear, and there was a copious discharge of purulent matter from the external meatus. Having attained certain dimensions, it appeared to remain stationary. The parts behind the ear were, however, constantly breaking out into superficial ulcerated points, from which occasionally there was an oozing of arterial blood. Compression upon the temporal artery was tried, but for want of a proper apparatus, very ineffectually; and also the application of ice and astringents, but as might have been expected without benefit.

On the 2d of April 1838, the child being then ten months old, the tumour presented the following characters. "It appeared to be chiefly arterial. A few enlarged veins encircled and ran through it; but it seemed essentially to consist in an enlargement in size, if not in number, of the branches of the superficial temporal and posterior auricular arteries. Commencing at the root of the zygomatic process, it proceeded directly upwards, reaching nearly the anterior fontanelle, and terminating in a nuckle-like eminence. This, the temporal por-

tion, measured three inches and a half in length; at its origin it was rather more than an inch in breadth, and, when distended, it rose throughout fully three-fourths of an inch above the surface. The whole of the figured parts of the ear were either of a livid or bright strawberry colour, little if at all elevated in front, but in the angle behind forming a livid flaccid swelling. Immediately in front of the mastoid process, this was of the size of a small filbert. From this point it took a semicircular course backwards, following the direction of a superficial branch of the posterior auricular artery, and extending upwards of two inches. Towards the angle of the lower jaw there was a diffused subcutaneous tumefaction of a bluish cast. The whole of the tumour, with this exception, was of a deep strawberry colour, mammillated, brightening as it distended, and with a bluish tinge here and there. The least exertion of crying produced a remarkable increase in the temporal and occipital portions, and there was a constant thrilling felt on applying the fingers to the temple. There were also two detached, small, circular, flat nævi close upon the orbit, and two or three others of the same nature above the ear on this side."

At the date last mentioned Dr. M. introduced four needles. The first traversed a space of an inch and a half in front of the ear, immediately above the zygoma, "the intention being, if practicable, to get under the root of the temporal artery. No alteration, however, followed; on the contrary, the whole tumour became enormously distended by the cries and efforts of the child. The second needle was pushed through half an inch from the termination of this portion of the tumour, so as to cut off any communication with the opposite side. The third was introduced parallel with, and half an inch from, the first, this part having enlarged considerably on twisting the thread round the first needle. The fourth was inserted immediately in front of the mastoid process, close to the lobule of the ear, embracing, apparently, the posterior auricular artery. This suture was instantly followed by a most satisfactory diminution of the tumour occupying the posterior part of the helix, as well as a change of colour in the concha and *meatus externus*. The child was soon quieted; and in half an hour after it fell into a sound sleep, interrupted momentarily by startings. Between three and four o'clock it was up and lively. It slept sound during the night.

"4th April, Third day.—The child was seen regularly twice a-day since the second, and did not appear to have suffered the least inconvenience from the needles. The temporal portion of tumour appeared to be more flaccid, and of a deeper blue. The mastoideal and occipital portions were stationary. The child's health was undisturbed, and the needles were firm.

"6th April, Fifth day.—The needle behind the ear was removed to-day, there being slight discharge from the punctures, with surrounding excoriation, the tumefied parts overlapping and being irritated by it. The remainder were firm. In the neighbourhood of excoriation were several hard nodules, occasioned by effused fibrin, and resembling an external hæmorrhoid. The posterior part of the ear, as also the meatus, were already much reduced. Four more needles were introduced, the situation of which are pointed out in the accompanying plate. On this occasion, waxed thick purse-silk was employed, as being less likely to cut the skin. Several turns of the silk were made over the parts isolated by the needles, by crossing it from one needle to the other. The child cried less, and fell into a sound sleep soon after the operation.

"7th April, Sixth day.—Health continued undisturbed. The first and third needles introduced on the second were withdrawn to-day, though firmly fixed. A drop of blood followed the removal of the first. The silk has been allowed to remain. Excoriation behind much deeper.—A weak solution of the sulphate of zinc to be applied.

"8th April, Seventh day.—The temporal portion of tumour was less red. The part anterior to the ear was firm, semitransparent, and of a very pale-blue colour, evidently resulting from effused fibrin. The remaining needle was introduced on the 2d. The one near the termination of the temporal portion, the second inserted, was removed to-day. Neither discharge nor ulceration had

taken place at either of the points. The child has been lively and in high spirits. Excoriation discharging copiously, but not extending.

"11th, The remaining needles were removed, and found slightly oxidized. Behind the ear ulceration is rather deeper, and yesterday the discharge was discoloured with blood. From the surface of the tumour, immediately above the zygoma, issued a slight sanious and purulent discharge, but the parts underneath felt firm. On withdrawing the seventh needle, a drop of scarlet blood followed. The parts embraced by the silk are white, but not ulcerated.

"The child was daily visited since last report. Its health continued undisturbed, and there appeared to be a decrease in the whole tumour operated upon; at all events, it was not nearly so much elevated when the child cries, nor is it so bright.

"13th, Discharge from ulcerated parts was much increased, and the tract of the first needle in front of the ear was deeper. The whole tumour above this was also superficially ulcerated and discharging thin ichor. The subjacent parts continued firm, and, excepting when the tumour is touched, the child appeared to be free from pain.

"In rather less than three weeks from this date the ulcerations had healed under common applications, the solution of the sulphate of zinc, or the white oxide of zinc ointment. The tumour gradually disappeared, leaving a firm fibrous texture of a whitish colour indented with the tract of the needles, and very closely resembling a superficial burn. That portion behind the ear of a crescentic form, retained for some time its brightness. I was desirous of passing under and through it two or three needles; but the mother, who all along appeared to view the measure adopted as an experiment, offered so many objections that my intention was not carried into effect. This I scarcely regret. At the period I am writing (30th November, 1838,) the skin had nearly acquired its natural colour, interspersed only in front and behind the ear with some little red points. The previous extent of the tumour could now hardly be traced, the hair is growing over it, and, as the child advances in years, that portion only in front of the ear will be exposed. There is still a small flaccid livid swelling, rather larger than a pea, in the loose integuments in front of the mastoid process, not, however, under the influence of the circulation; and the mother says it is decreasing.

"It would be difficult to find a more satisfactory or successful case than the above. In this instance, at least, Lallemand's method effected all that could be desired. It is obvious that no other could have been attended with so little risk. Excision was out of the question; the boldest operator, and the most dexterous dissector, would scarcely have attempted the knife. Ligature of the carotid artery was a measure uncertain in result. Although Mr. Travers succeeded by tying the carotid in a case of aneurism by anastomosis in the orbit, the very free inosculation in the scalp appears to be unfavourable when the tumour is situated there; and it has been remarked by Mr. Phillips,* 'that ligature of the carotid has never succeeded in one of the cases in which it has been employed by Pellétan, Mussey, and Wilhaume, for the cure of erectile tumours affecting the temporal fossa. The case related by Dr. Mussey, in the American Journal of Medical Sciences, February 1830, in which he tied both primitive carotids for a large aneurism by anastomosis, on the vertex, and had in six weeks after to extirpate the tumour, is not in favour of the ligature. In a case operated upon by Dupuytren also, in which he tied the carotid for a large nævus situated about the ear, and including the whole texture of the surrounding parts, the operation was equally unsuccessful. It appears to be more certain in cylindroid dilatation of the arteries. Mr. Syme and others have recorded cases in which they succeeded; but, as it is observed by Lawrence, 'tying the arteries, or the main trunks of the vessels which supply the part of the body in which nævi are situated, cannot according to our present experience, be much relied on.' Extirpation and ligature of the carotid being rejected, the only remaining method that appeared at all applicable was that proposed and executed by Mr.

* London Med. Gaz. Vol. xii.

Fawdington of Manchester, the seton; but the purely arterial nature of the tumour seemed to render it hazardous, and the needles were employed, as being less likely to be followed by hæmorrhage.

"A remarkable circumstance in the history of this case is, that very few needles, eight only, were sufficient to obliterate the tumour. The repeated ulcerations behind the ear seemed to be an effort of nature to destroy the disease, requiring only a little assistance from art to perfect the cure. Another point worthy of remark, was the total absence of constitutional irritation from the needles. Aware of the danger of punctured wounds in the scalp, I was rather apprehensive of an attack of erysipelas; and, as the needle behind the ear must have embraced some branches of the *portio dura*, there were grounds for anticipating other disagreeable consequences. However, no constitutional effect whatever followed the insertion of the needles on either days. The operation was completed without the loss of a single drop of blood; and the tumour was removed with little or no deformity. These, then, appear to be the principal advantages of the treatment of aneurism by anastomosis, or nævi, by the twisted suture; viz: simplicity; little or no pain in its performance; little or no constitutional disturbance; little deformity, perhaps less, if necessary, except the seton, than by any other method; and little or no risk of hæmorrhage. On this last point Lallemand remarks, 'the fear of hæmorrhage is groundless. Immediately after the needle is introduced it fills the wound it has made, and in a very short time inflammation changes the nature of the surfaces divided, and hæmorrhage becomes impossible.'

"I employed fine darning needles, previously prepared with wax-heads, to handle them by. Although Lallemand appears to have used needles, he recommends pins, such as are used for transfixing insects, as being more easily cut or broken off than sewing-needles. He considers thread unnecessary;—'it prolongs the operation, does not increase the inflammation, nor is it necessary to prevent hæmorrhage.' It appears to me, however, to assist the progress of the cure; by compressing the vessels, it induces adhesive inflammation in their sides; they are more readily obliterated, and the nature of the tumour is essentially changed, though the irritation occasioned by the presence of the needles seems to be the chief source of benefit.

"Successful, however, as the twisted suture has been in the case of nævi and aneurism by anastomosis, like every other method employed, it has occasionally failed. In two cases seen by M. Bouchacourt, the twisted suture practised twice was without benefit; yet it is well deserving a trial. In a considerable majority it will be found to answer; and it is less objectionable than most plans."

OPHTHALMOLOGY.

38. *On Injuries of the Eye by Percussion Caps.* By Samuel Crompton, Esq.—The following observations were made in the practice of Mr. Barton, surgeon to the Manchester Eye Institution, to whom I am indebted for permission to publish the illustrative cases, and his method of treating them.

One of the fragments, into which a percussion cap breaks when it is exploded, sometimes enters the eye. The accident generally occurs in shooting with, or in discharging, percussion caps with a hammer. I have seen many instances of it, and have preserved notes of seven cases, in each of which the injured eye was destroyed. In one of these cases the vision of the other eye, also, was nearly lost, from sympathetic inflammation; and it is most likely that there would have been a similar termination of the rest, if that treatment, which I shall presently describe, had not been adopted. The peculiarities and importance of these injuries, and the consideration that they are unnoticed by systematic writers on the eye, have induced me to detail, more minutely than would have otherwise seemed necessary, the most remarkable circumstances relating to them.

In every case the fragment of cap was driven into the posterior chamber of the eye; but immediately after the accident, the changes produced in the eye, and the symptoms, were so like those observable in penetrating wounds of that organ, when no foreign body remains in it, that it was impossible to ascertain, at first, whether the cap was in the eye or not. The wound made by the entrance of the fragment of cap into the eyeball was generally a clean incised one, and healed readily. The vision was not destroyed immediately in those cases in which the cap went through the sclerotica, and did not injure the transparent parts of the eye. For a length of time, varying from a few days to a month after the accident, the patients appeared to be in a fair way for immediate recovery; but at the expiration of that time they were suddenly seized with most acute pain in the eye, attended with extensive chemosis, and with haziness of the cornea in some of the cases. Suppuration never happened. The pain subsided entirely for a while, or was greatly mitigated in a day or two after its commencement; but this cessation was only temporary, for it always recurred and subsided at uncertain periods, until the vision with the injured eye was entirely destroyed, the eyeball in a state of painful chronic inflammation, and the health of the patients much injured by the irritation occasioned by the injury, and from anxiety for their sight; for the vision of the other eye became affected at this stage of the disease, by the inflammation extending to it by sympathy. The first indications of its commencement there, were a slight redness of the conjunctiva, and an inability to see so well as formerly with the eye, or to bear the ordinary light of a room without pain and confusion of vision.

In case I. the effects of the sympathetic inflammation were, a dull yellow colour of the sclerotica, a change in the colour of the iris, and adhesion of it to the capsule of the lens; and a very irregular and small pupil, filled with a dot of opaque capsule.

The fragments of caps taken from the eye, after being within it for months, were only tarnished; they bore no appearances of undergoing changes similar to those which take place in pieces of steel during their exposure to the humours of the eye; they were always of a considerable size, and their angles were sharp. Mr. Barton believes that the sympathetic inflammation in these cases is occasioned by the presence of a fragment of cap in the other eye, and that the only means of preventing it, or of allaying it when it has arisen, is the removal of that fragment from the eye. He has treated many cases on this principle; of seven of which I have preserved the following notes.

Case 1.—W. ——, Esq., about forty years of age, and of very intemperate habits, was shooting on the moors in August, 1832, when, on discharging his gun, something cut his right eye. He lived far from Manchester, and was under the care of his usual medical attendant, who used active measures to subdue the pain and inflammation which occurred in a few days after the accident. He consulted Mr. Barton, for the first time, on the 29th October, 1833, when he had continued pain in his right eye, occasionally so severe as to prevent him sleeping for successive nights; his vision with it was destroyed; the left eye also was inflamed sympathetically, and vision with it so much impaired that he could not find his way. His health had suffered greatly from the effects of the disease, and his anxiety for the recovery of his sight. Mr. Barton told him that it was very probable that something had entered the eye and occasioned his sufferings; but, in compliance with the request of the patient, who was unwilling to submit to an operation for its removal, various plans of medical treatment were tried until the 3d of November, without the least benefit being derived from them. On this day a large piece of the cornea of the left eye was cut away, in order to remove the foreign body; but the eye was so exquisitely sensitive, that attempts were not made to find it. A large poultice was applied to the lids. In a few days afterwards a large fragment of a percussion cap was removed from the coagulum, which filled up the opening that had been made in the globe of the eye; it was merely tarnished, and its angles and margins were as sharp as if it had been just broken. The patient was permanently relieved, but the sympathetic inflammation had produced so great changes in the other eye, that it was necessary to perform an operation for artificial pupil upon it.

Case 2.—George Ankers, of Staly-Bridge, about 28 years of age, on the 29th January was sitting near a man who discharged a gun, when a portion of cap entered his right eye. On the following day he could see across a room with that eye, but in the course of a month vision with it was quite lost. On the 8th April, the conjunctiva was very vascular, and the eye occasionally very painful. He could not bear the ordinary light of a room without placing his hand over the other eye (the left), neither could he read more than one, two, or three lines with it, before the letters became indistinct, and the eye painful. A flap of the cornea of the right eye was removed, and a poultice was applied to the eyelids. On the 16th of June, a friend removed the fragment of cap from the cicatrix in the front of the eye-ball. He has been easy since, and the powers of the other eye are quite restored.

Case 3.—Master R., of Stockport, about six years of age, was playing, on the 25th of July, 1836, with a boy who was exploding percussion caps with a hammer, when a fragment of one cut his eye. This eye was so free from pain and inflammation for several weeks, that it was hoped that the cap had not entered it; but by the 21st of September it had assumed the appearances indicative of its presence there. A portion of the front of the eye-ball was cut away. On the following morning the fragment of cap was found in the poultice which had been applied to the eye-lids; it had only become of a darker colour by being in the eye.

The following cases were treated as the above:—

Case 4.—W. Williamson, of Stockport, injured in shooting.

Case 5.—Adam Chamley, of Hebden Bridge, Yorkshire, injured in shooting.

Case 6.—Mr. T., of Cumberland, injured in shooting.

Case 7.—John Taylor, of Manchester, injured whilst standing near a man exploding a percussion cap with a hammer.

The details of the four last cases are so like those of the three first, that it seems unnecessary to give them. In all, however, the object of the operation was gained; the sympathetic inflammation being suspended in the first case, and the symptoms which were thought to indicate its approach being removed in the others. The operation is thus performed:—The patient being placed in a convenient position, the operator forms, by means of Beer's knife, a large flap of the cornea, which he seizes with the forceps and cuts away with a pair of curved scissors. A dose of laudanum is then administered to the patient, and a linseed-meal poultice applied to his eye-lids. The operation always gives great pain, and should be performed as rapidly as possible. The eye is so exceedingly sensitive, that attempts to find the fragment of cap cannot be endured. In all the cases of Mr. Barton, the cap was found in the poultice, or in the coagulum which closed the opening into the eye, in a day or two, or at a longer period after the operation.

I have made diligent inquiries as to whether the caps which inflicted the injury were grooved or smooth. I believe that they were generally smooth and of an inferior kind, called French caps; but it is very likely that both kinds are very dangerous when exploded between two flat surfaces on a level with the eye; an amusement with children which is very common in this part of the kingdom. *London Medical Gazette*, Oct. 28, 1837.

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39. *Iris Sympathetica.* By Mr. Mackenzie, (extracted from a clinical lecture.) 1. The injuries which, affecting one eye, are most apt to excite, after some time, sympathetic inflammation in the other, are penetrating wounds, inflicted by cutting instruments, or by the forcible projection of splinters of iron or stone, or the fragments of percussion caps. A mere blow on the one eye (for example, with a stick) has been known to impair the other sympathetically; but in general it is from penetrating wounds that the disease we are now considering takes its rise. Sometimes the wound is inflicted by such an instrument as a chisel or screw-driver, as was the case with Finlay, so that there can be no suspicion of any thing being lodged within the eye; while, in other instances, the suspicion is strong, or there is an absolute certainty, that a foreign body has passed through

the tunics, and lies there unextracted. Sympathetic iritis has been known to occur both where the foreign body has been extracted immediately after the receipt of the injury, and where it has lain for weeks within the eye.

The injuries we are now speaking of are sudden and violent. They are generally attended by a loss of part of the humours, and by an extravasation of blood into the interior of the eye. The parts divided have generally been the cornea and iris, with a small part of the sclerotica and choroid. The junction, in fact, of the cornea and sclerotica, and consequently the annulus albidus of the choroid, is the place which has been wounded in most of the cases which I have seen. I think sympathetic iritis is more apt to be excited if the wound has been followed by a protrusion of the iris, and such a cicatrice of the cornea and sclerotica as keeps the portion of the iris not involved perpetually on the stretch. If the wound has been so extensive as to divide or lacerate the retina, sympathetic inflammation is probably still more apt to occur, the injury which the lens suffers in such cases, and the traumatic cataract which follows, have little or no influence in causing sympathetic disease. A wound which implicates merely the cornea and lens, or even a wound of the cornea, with simple prolapsus iridis, is not apt to excite sympathetic iritis. I have never known any of the operations for cataract bring on this affection; not even when, after that of extraction, the iris protruded, and the cicatrice which followed caused dragging of the opposite side of the iris, have I ever seen sympathetic inflammation. These facts, then, would lead us to conclude that injuries of that part of the choroid called the annulus albidus are most apt to cause sympathetic iritis. If, along with a wound of that part of the choroid, there is a loss of part of the vitreous humour, and a protrusion of the iris, I should dread an attack of sympathetic inflammation; especially if, about the time of the cicatrization of the wound, the patient began to use the good eye in earnest, committed any irregularity in diet, over fatigued himself, or suffered from mental excitement or distress.

II.—Were we to judge of the period of time which generally elapses between an injury of one eye and sympathetic inflammation manifesting itself in the other, from the six cases which I related formerly, as having occurred in the practice of this infirmary, we should say that five weeks was the most frequent period; for in Mill, the sympathetic disease came on six weeks after the injury; in Paterson, the period was three months; in Moore, one month; in Downie, five weeks; in Finlay, five weeks; in Gartshore, four or five weeks. In three out of the six cases recorded by Mr. Lawrence, the period is not mentioned; in the other three, the periods were a few weeks, five years, and soon after six weeks. In Mr. Wardrop's two cases the periods were three weeks, and one year.

III.—The subjects of sympathetic iritis have most frequently been, in my experience, men employed in iron-works. At the time when their eyes were injured, their general strength was not impaired, but from their habits of life, and especially from their liberal use of spirits and tobacco, their constitutions were in an artificial state, very unfavourable for throwing off any inflammatory disease. Hence it appeared to be, that the iritis degenerated into the arthritic variety, and proved so intractable. In some of the cases I have seen the sympathetic inflammation was modified by scrofula, a modification scarcely less troublesome than the arthritic. In one of our cases, Dr. Kennedy observed that the wounds made in bleeding the patient at the bend of the arm generally suppurated; which led him to inquire whether a syphilitic taint might not be present. The patient acknowledged having had some primary syphilitic symptoms before he received the injury of his eye; but he had no sore-throat nor eruption, and the eye, sympathetically inflamed, showed no peculiar indications of syphilis.

IV.—It sometimes happens that the patient is unable to specify any exciting causes for the sympathetic attack; but, in other instances, causes of this kind are distinctly mentioned. For example, in Finlay, the exciting cause was manifestly the reading, for three or four hours together, in a book printed in a small type, and in one of Mr. Lawrence's cases, the eye had been incautiously worked. The wounds of the eye, which are apt to give rise to sympathetic

iritis, commonly take from a month to six weeks to cicatrize. Whenever they are healed, the patients are apt to re-commence their usual employments and modes of life; and then it is that the exciting causes of the sympathetic disease come into play. The same sort of exciting causes which produce the first attack of sympathetic inflammation, also bring on relapses when the patient is recovering; and it is generally by a succession of relapses that vision is ultimately destroyed.

V.—The local symptoms of sympathetic ophthalmia are those of iritis, passing rapidly into amaurosis and atrophy of the eye. Not unfrequently the first symptom is dimness of sight. This is rapidly followed by zonular redness around the cornea, dingy greenness of the iris, flexibility of the cornea, bogginess of the sclerotica, opacity of the capsule, greenishness of the lens, varicosity of the rectal vessels, the presence of red vessels ramifying over the surface of the iris, contraction and adhesion of the pupil, puckering and bolstering forwards of the iris, and total insensibility of the retina. The pain is very variable; for in some it is slight, as in Gartshore, who said she had had no pain in the eye sympathetically affected, while in others it is severe, as in Finlay. Photopsia is a usual symptom about the commencement of the attack. In some there is great intolerance of light, as in Paterson; in others, there is little. At length, the shrinking of the eye-ball, and especially of the cornea, is very remarkable. In one of Mr. Lawrence's cases, both cornea had shrunk to the size and figure of a barleycorn placed horizontally.

There can be no doubt that retinitis forms a part, and a chief part, in all cases of sympathetic ophthalmia. Perhaps retinitis occurs first, and added to it is the iritis. The early loss of vision shows that the retina is deeply implicated from the very commencement. The flexibility of the cornea, and softness of the sclerotica, indicate the vitreous fluid to be lessened in quantity. The changes which are visible in the capsule and in the iris are plain indications how far these textures are affected.

Sympathetic iritis is generally an inflammation of that description which is called *unhealthy*. It sometimes resembles scrofulous internal ophthalmia; more frequently it resembles what the Germans call arthritic ophthalmia. The symptoms are often such, that one skilled in German ophthalmology would at once say, here is arthritic iritis. I have often observed to you, that if we use the term *arthritic* merely as a conventional one, to express a certain variety of eye disease, characterized by certain signs, this may be allowed; but if by arthritic is meant strictly *gouty*, applied to the cases we are now considering the term is incorrect. The subjects of sympathetic iritis may have some peculiarity of constitution, produced by their mode of life, and by the nature of the ingesta to which they have habituated themselves; but these are not sufficient grounds, I think, to suppose that they are labouring under the gouty diathesis. It is more probable that the particular textures of the eye which are affected, and the modes in which these textures are suffering, produce the peculiar symptoms which present themselves so strikingly in such cases, and which the Germans choose to call arthritic.

Amongst the constitutional symptoms we may mention quickness of the pulse, thirst, a marked buffy coat on the blood drawn from a vein, a pallid complexion, and obstinate constipation. A degree of ill health, in fact, has generally resulted from the confinement, want of exercise, and medical treatment necessary for the cure of the original accident; and in this debilitated state the patient is attacked by the sympathetic disease.

VI. The fact, that disease in one eye is apt to be followed by similar disease in the other, has long attracted attention. Inflammation, cataract, and amaurosis, have especially been observed to occur in this way, from what is termed a *consensus oculorum*.

Mary Young (No. 8266), who is at present attending as an out-patient, presents a curious instance of inflammation passing from one eye to the other. Several years ago she was affected with trichiasis, xeroma of the palpebral conjunctiva, and thickening and opacity of the left cornea. At that time the right

eye was perfectly well; but within these few months we have the same set of symptoms in the right eye, only in a less degree, which we had formerly in the left. The corresponding eyelashes are inverted, the corresponding part of the conjunctiva has become dry, and the corresponding portion of the cornea is opaque.

Jess Gemmel (No. 6234), and John M'Brair (No. 8561), two patients at present on our list, afford instances of sympathetic amaurosis, and oscillation of the eye-ball. In Gemmel the left eye was destroyed by a blow and eight days after the right eye was found affected with oscillation, and a great degree of dimness of sight, but without inflammation. We know less of M'Brair's history, as the injury which destroyed the sight of his left eye, and produced almost a complete absorption of the iris, occurred in childhood; but in him we have another example of sympathetic oscillation and amaurosis.

Dr. Albers (Himley and Schmidt's Ophthalmologische Bibliothek, ii. Band, iii. Stück, p. 169,) relates the case of a countryman, who, in a scuffle with his brother, was struck with a pitchfork in the right eye, whereby the cornea and iris were seriously injured. The wound healed up in such a way that the sight was not entirely lost. In three days after the injury, the patient observed a diminution in the vision of the left eye, and a distinct opacity in the pupil was discernible. This increased so rapidly, that in eight days there were all the signs of a fully formed cataract. Half a year afterwards he was operated on by Professor Jung, of Marburgh, but unsuccessfully, the patient remaining completely blind. Albers asks, if this case does not go to prove a decussation of the optic nerves; to which Himley replies in the negative. For suppose (says he) that the cataract, the sudden formation of which is very remarkable, was really a consequence of the injury, and not only so, but that the injury was the sole cause of the cataract, and did not operate merely in exciting a tendency already existing to opacity, we find similar appearances of *consensus* frequently in the corresponding teeth of the two sides, where no such decussation or nervous communication can be brought forward in explanation.

Notwithstanding this objection of Himley, it is generally acknowledged that those organs of the body are most apt to affect others, or in their turn to be affected sympathetically, in which the nervous system is the most developed; that there are no organs between which a sympathy in different states of disease exists so remarkably as the two eyes; and that there are no organs in which the nervous system is more developed, none in which the nerves of the opposite sides are connected in the same intimate way.

In the cases which we have been particularly considering, it is not improbable that the blood-vessels on the side of the injured eye, being in the state of fulness and inordinate action which attends inflammation, communicate to those of the opposite side, with which they have connections within the cranium, a disposition to the same morbid state in which they themselves are. The ciliary nerves, also, of the injured eye may be the means of conveying into the third and fifth nerves an irritation, which may be reflected from the brain to the same nerves on the opposite side. I think, however, that the chief medium through which sympathetic ophthalmia is excited, is the union of the optic nerves. The researches of modern anatomists have tended only to confirm the conjectures of Newton (Opticks, query 15,) that the optic nerve of the one eye proceeding backwards, and meeting the optic nerve of the other eye, the two mingle their fibres, and partially decussate. It is extremely probable that the retina of the injured eye is in a state of inflammation, which is propagated along the corresponding optic nerve to the chiasma, and that thence the inflammatory action is reflected to the retina of the opposite eye, along its optic nerve.

VII. The history of the case will, in general, be sufficient to prevent any difficulty in the diagnosis. Sympathetic ophthalmia may be complicated with scrofula, and assume a good deal of the scrofulous character; or it may be complicated with syphilis, which an examination of the patient's skin and throat, and an inquiry into his previous health, will serve to elucidate. These compli-

cations, as well as the arthritic, will no doubt render the symptoms more severe; but they will scarcely influence the line of treatment to be followed.

VIII. The prognosis is so unfavourable, that it is our duty to guard the patient who has suffered an injury of one eye, against the exciting causes of sympathetic iritis, from the very first. When this disease is actually present, even the most active treatment is generally ineffectual. Indeed, I have never seen an eye recover from sympathetic iritis. Renewed attacks have, in every case, terminated in extinguishing vision. Mill is the only exception; but in him we cannot calculate yet on the final result. Any of the exciting causes I have enumerated would again rouse in him an inflammation, which all our applications might fail to check.

IX. Rest, antiphlogistic means, and the use of mercury, are the principal points of the treatment in sympathetic ophthalmia. These means, we have abundant proof, are not very successful. Still, to relinquish these remedies would be wrong.

There is a disease, Mr. Wardrop informs us, frequent in the eye of the horse, having the appearance of a specific inflammation, which usually first affects one eye and then the other, and almost always sooner or later destroys vision. It is known among some farriers, that, if the eye first affected with this disease suppurates and sinks in the orbit, the disease does not attack the other eye, or subsides, if it had commenced in it. Thus they have adopted a practice of destroying altogether the diseased eye, in order to save the other; which is rudely done by putting lime between the eyelids, or thrusting a nail into the cavity of the eyeball, so as to excite violent inflammation and suppuration. Mr. Wardrop has frequently succeeded in saving one eye of the horse by adopting this practice; but he destroyed the eye by making an incision in the cornea, and discharging through it the lens and vitreous humour. "In some diseases of the human eye," says he, "where the disease makes a similar progress, first affecting one eye and then the other with complete blindness the practice so successful in animals might, by judicious discrimination, be beneficially adopted."—(Morbid Anatomy of the Human Eye, vol. ii. p. 139.)

The practice thus hinted at by Mr. Wardrop has actually been adopted, though with a somewhat different view, by Mr. Barton of Manchester, in cases of injury of one eye with the fragment of a percussion-cap.*

In the cases published by Mr. Crompton this practice appears to have not only relieved the patients of the pain they were suffering in the injured eye, but to have arrested the sympathetic inflammation which threatened the other. Is not this, then, good ground to adopt a similar plan, not only in cases where we have reason to suppose that some foreign body is lodged within the eye, but even in other cases, where the one eye being disorganized, and deprived of sight, the vision of the other eye seems likely to be lost by sympathetic inflammation? Where there is a suspicion of some foreign body being within the injured eye, there can be no question that Mr. Barton's practice ought to be adopted; but even in other cases, why should we hesitate to lay open an eye in which vision is extinguished, if the operation affords as I think it does, a hope of our being thereby able to save the other.—*Lond. Med. Gaz.* Oct. 1838.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

40. *Child at Birth of Enormous Size.*—The average weight of a child at birth is usually considered to be from seven to eight pounds. Dr. Dewees met with two cases in which the weight was fifteen pounds (*System of Midw.*); and Dr. Francis says that an instance occurred in New York, where the fœtus (born dead) weighed sixteen pounds and a half. (*New York Med. & Phys. Journ.* II. p. 20. 1823.) An example of a still greater weight in a newborn child is related

* See preceding article. Ed.

in a recent number of the *Lancet* (22d Dec. 1838) by Mr. J. D. Owens. The child was born dead after a labour of sixteen hours' duration. Its weight and admeasurement are given as follows:—"The long diameter from the occiput to the root of the nose, 7¼ inches; the occipito and mental, 8½ inches; from the parietal protuberances, 5 inches; the circumference of the skull, 15¼ inches; the circumference of the thorax over the xyphoid cartilage, 14½ inches; the breadth of the shoulders, 7¼ inches; the extreme length, 24 inches. The weight *seventeen pounds twelve ounces.* We supposed that this was the largest fœtus on record; but on referring to Dr. Beck's learned work on Med. Jurisprudence, sixth edition, p. 276, we find that he quotes Cranzius as saying that "he had seen one fœtus weighing twenty-three, and another twenty-seven pounds!!"

41. *On the manner in which death is produced by Carbonic Acid Gas.*—Dr. Golding Bird, communicated to the Physical Society of Guy's Hospital, at their meeting, 23d February, 1839, some interesting views relative to the pathology of death from charcoal vapour, illustrated by experiments.* He stated that he did not wish to enter at length into the question of the mode in which carbonic acid produces death—whether, as supposed by Brodie, Bichat, Nysten, &c., by excluding oxygen, or, as believed by Christison, Collard, Pyl, &c., by acting as a specific poison—as this would occupy too much of the society's time; but, from all the investigations he had made, he was led to agree in every respect with M. Collard de Martigny in believing that carbonic acid, when sufficiently diluted to enter the air-passages, acts as a specific poison, and produces its fatal effects, notwithstanding that sufficient oxygen may be present in the air of the apartment to support animal life *per se*—a statement fully borne out by the very frequent occurrence of florid blood in the hearts, lungs, and brains of persons who have died from inhaling an atmosphere vitiated by carbonic acid gas. This fact, although somewhat opposed to the orthodox and popular opinions as given in most of our works on toxicology, is, nevertheless, fully supported by the cases which have been published in the continental and British journals. The arguments in favour of this view of the specific action of carbonic acid adduced by Dr. Bird, were unfortunately too extended to be comprised in our limited space: this we regret the less, as we understand the matter will be fully treated of in the next number of Guy's Hospital Reports.

From a review of cases of death resulting from the inhalation of air contaminated by the presence of carbonic acid, we are compelled to modify the opinions imbibed from the perusal of most toxicological works; for it is no less certain than true that the great majority of the pathological appearances attributed to death by the inhalation of charcoal vapour, are as frequently absent as present. The reason of the diversity observed in the post-mortem appearances of persons killed by apparently one and the same cause, and under circumstances apparently in every way identical, is at present involved in obscurity; much, probably, may depend upon the degree of vitiation of the air of the room; more, perhaps, on the age, health, and temperament of the individual exposed.

Dr. Bird's observations lead him to believe that an atmosphere containing 10 per cent. of carbonic acid will quickly produce death; in birds this occurred after they had respired it from seven to ten minutes: and that the presence of 5 per cent. will prove no less certainly fatal, although requiring a longer time for the production of that effect—in birds about half an hour. A bird of the same size as the above lived an hour and a quarter in a vessel containing the same bulk of atmospheric air, and, upon removal from it, revived completely.

It is difficult, from the imperfect manner in which cases are too generally reported, to represent the comparative frequency of the occurrence of particular post-mortem appearances by numbers; but the following numerical statement, drawn from the best reported cases in the German medical journals, including two from private sources, and of late occurrence, would, perhaps, be of service to the medical witness, if it did no more than point out to him the fallacies into

* Since published in Guy's Hospital Reports, for April, 1839.

which he would be likely to be betrayed by trusting to the generally received and popular opinions of the pathological effects which ought to result from the inhalation of carbonic acid:—

External Phenomena.

A.	14 cases examined	Vomiting had preceded death in	5
		Vomiting had not preceded death in	9
B.	12 cases "	Face bloated and livid	6
		—— pale and natural	6
C.	11 cases "	Froth before mouth and nostrils	5
		—— absent	6
D.	6 cases "	Eyes injected	2
		—— natural	4
E.	7 cases "	Limbs remarkably rigid	5
		—— flexible	2
F.	14 cases "	Abdomen tumid	11
		—— distended	3

Internal Phenomena.—Head.

	18 cases "	Serous effusion in ventricles and under arachnoid	15
		—— absent	3
	18 cases "	Extravasation of blood	3
		—— none	15
	7 cases "	Blood black in the brain	3
		—— florid	4
	18 cases "	Membranes turgid with blood	14
		—— natural	4

Chest.

	7 cases "	Mucous membrane of larynx and pharynx injected	4
		—— healthy	3
	13 cases "	Lungs distended	6
		—— collapsed	7
	13 cases "	—— black or deep violet	5
		—— red or pale	8
	18 cases "	Blood only in right ventricle of right	7
		—— left	1
		—— in both ventricles	8
		—— in neither	2
	7 cases "	—— in heart black	5
		—— florid	2
	10 cases "	—— coagulated	6
		—— fluid	4

The only phenomena to which he had found, as yet, no exceptions are—

A. The presence of livid spots over the whole body; often, however, not more intense than occur from other causes.

B. Tongue exserted and generally grasped between the teeth, unless vomiting has preceded death, when the tongue is found concealed by the teeth.

C. Intensely calm and sleep-like aspect of the corpse, whether pale or bloated.

D. Congestion of the cerebral vessels amounting to apoplexy, often attended by copious serous effusion into the ventricles, under the arachnoid, or at the base.

In conclusion, he offered the following conclusions as fairly deducible from the result of these investigations:—

1. That carbonic acid sufficiently diluted, as in charcoal vapour, does not act fatally by closing the glottis nor by excluding oxygen, but by a specifically poisonous action.

2. That carbonic acid thus diluted may produce death, although a proportion of oxygen, sufficient *per se* to support life, may be present in the air of the apartment; and on this account no dependence can be placed on the florid colour of the blood in the lungs, as evidence against carbonic acid gas having been the cause of death.

3. That such a vitiated atmosphere acts most probably primarily on the nervous system; and secondarily, but by no means essentially or necessarily, upon the circulating fluid.

4. That the death of persons inhaling an atmosphere vitiated by carbonic acid is produced by apoplexy.

5. That no dependence can be placed upon the bloated and red, or pale and contracted features; on the liquidity or coagulated state of the blood; on the injection or paleness of the mucous membrane of the air-passages or intestinal tube, as positive evidence for or against the action of carbonic acid gas as a cause of death, in medico-legal investigations.

MIDWIFERY.

42. *Cartilaginous condition of the Neck of the Uterus—Incision of this part to facilitate delivery.*—Dr. Burdach of Finsterwalde, was called June 27th, to a woman twenty-eight years of age, pregnant with her first child, and who had been attacked three days previously (June 24th,) with labour pains; the membranes had broken during that day. The midwife could not reach the neck of the uterus, and although the pains continued, the labour had not advanced by the 26th. Borax was then given in doses of six grains to increase uterine contractions, but though the medicine produced this effect, labour was not advanced. Dr. B. found the anterior lip of the neck of the uterus hard and callous. He prescribed emollient fumigations and an opiate ointment, which were continued until the next day (June 28) without any advantage. He then made an incision an inch and a half long in the anterior lip; but little blood flowed. Borax eight grains with one grain of musk to increase uterine efforts was given in repeated doses. But labour advanced so slowly that the forceps were resorted to and a dead infant delivered. The incision was not torn, the wound healed promptly and the patient entirely recovered.—*Revue Méd.* Dec. 1838, from *Medizinische Zeitung.*

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43. *Prolapsus of the Uterus—Incision into the Neck of the Organ—Cure.*—By Dr. Gruhn, of Reppen. A woman twenty-eight years of age, when in the fourth month of pregnancy, in consequence of a violent effort had a prolapsus of the uterus. Gestation nevertheless went on without any accident to full time. When Dr. G. saw her thirty-six hours had elapsed since labour had set in, and twenty-four since the waters had been discharged. The uterus hung between the patients thighs, it was six inches long and eight thick. The vertex of the child presented, and the neck of the uterus was dilated to the size of a two franc piece. Not being able to obtain a greater dilatation, Dr. G., made an incision three inches in length in one side of the neck of the uterus, and a dead but well developed child was extracted. The delivery of the placenta was attended with very profuse hæmorrhage, which was arrested by injections of cold water. Afterwards the uterus was reduced and every thing went on well. The woman recovered and notwithstanding the advice of Dr. G., refused to wear a pessary.—*Ibid.*

MEDICAL STATISTICS.

44. *Statistics of Patients Affected with Calculus, admitted into the Hospital of St. Mary at Moscow.*—Dr. De Roos, of St. Petersburgh, states that during the 28 years, from 1808 to 1836, 1411 patients affected with urinary calculus were admitted into the Hospital of St. Mary at Moscow. During the 7 years, from 1830 to 1836 inclusive, 469 calculous patients were admitted, of whom 411 were operated on, and 369 of them cured; 41 left the Hospital uncured, 23 died within the first week after the operation, 19 died after the operation in consequence of other diseases, and 17 died without being operated on.

The following table shows the ages of the patients, and results of the cases, admitted during the 7 years from 1830 to 1836 inclusive:

AGE.	Number of Patients.	Cured by Lithotomy.	Discharged, not Operated on.	Died within a week from the Operation.	Died, within a month or longer after the operation, from other diseases.	Died without being operated on.
2 years.	28	18	5	1	2	2
3 years.	51	41	8	1	1	0
4 years.	54	48	2	1	1	1
5 years.	38	33	1	2	1	1
6 years.	39	35	3	1	0	0
7 years.	38	31	3	2	2	0
8 years.	35	32	2	1	0	0
9 years.	22	20	1	0	1	0
10 years.	21	18	1	1	0	1
11 years.	13	7	1	3	0	2
12 years.	18	14	1	2	0	1
13 years.	10	7	0	3	0	0
14 years.	15	12	2	0	1	0
15 years.	10	7	0	0	3	0
16 years.	9	7	0	0	1	1
17 years.	10	8	1	0	1	0
18 years.	5	4	0	1	0	0
19 years.	4	2	1	0	0	1
20 years.	8	5	1	1	0	1
21 years.	3	2	0	1	0	0
22 years.	6	4	0	1	0	1
23 years.	7	1	3	0	2	1
24 years.	2	1	1	0	0	0
25 years.	2	1	1	0	0	0
27 years.	4	2	0	0	2	0
30 years.	1	1	0	0	0	0
31 years.	1	1	0	0	0	0
33 years.	2	1	1	0	0	0
34 years.	2	0	0	1	0	1
35 years.	2	1	0	0	0	1
36 years.	1	1	0	0	0	0
38 years.	1	1	0	0	0	0
39 years.	1	0	1	0	0	0
40 years.	2	0	0	0	0	2
45 years.	1	1	0	0	0	0
53 years.	1	1	0	0	0	0
55 years.	1	1	0	0	0	0
61 years.	1	0	1	0	0	0
Total,	469	369	41	23	19	17

Gaz. Méd. de Paris, December 2*d*, 1838, from *Medicinisches Correspondenz—Blatt.*

45. *Prussian Bills of Mortality.—Results gleaned from the Register of Births, Marriages, and Bills of Mortality in the Prussian dominions, during the year* 1836. *Officially reported by the Government.** From the Statistical Journal and Record of Useful knowledge, for November, 1837: London.

In the twenty-five government districts of the Prussian States, the amount of births and deaths during the year 1836 was, births 550,622, deaths 375,588; increase through the surplus of births 175,034. The total number of inhabitants in the Prussian dominions, exclusive of the principality of Neufchatel, was, at the end of 1836, 13,837,233.

Throughout the report, the number of 100,000 persons is taken as the basis of the calculations. In the year 1835, the births exceeded the deaths, 1127 in 100,000; in 1836, the excess was 1296; in the two years the excess amounts to 2423, or nearly 2 and $3\frac{3}{4}$ per cent.

Since 1836, the ratio of mortality to the population has increased, notwithstanding which, the natural increase of population is such, that, should there be no variation, it will be doubled in about 58 years.

The following estimate, made on an average population of 100,000 souls, shows the relative numbers of the births and deaths, together with the surplus of the former.

In the Government Districts of	Births.	Deaths.	Surplus.
Coslin	4136	2048	2088
Stettin	4146	2277	1869
Marienwerder	4681	2865	1816
Bromberg	4574	2785	1789
Frankfort	3877	2315	1562
Dantzig	4255	2702	1553
Stralsund	3877	2340	1537
Posen	4117	2679	1338
Potsdam	3963	2542	1421
Mersburg	4018	2634	1384
Dusseldorf	4036	2655	1381
Minden	4398	3025	1373
Treves	3855	2508	1347
Arnsberg	3953	2708	1245
Magdeburg	3784	2557	1227
Coblentz	3949	2739	1210
Erfort	3894	2706	1188
Koningsberg	4071	2957	1114
Cologne	4073	2962	1111
Oppeln	4810	3761	1049
Breslaw	4818	3070	1048
Aix-la-Chapelle	3726	2697	1029
Gumbinnen	4141	3127	1014
Lignitz	3930	3149	781
Munster	3169	2471	698
In the Prussian dominions generally	4076	2780	1296

From the above statement it appears that the births exceeded the deaths in all the districts, which are ranged so as to show the greatest amounts first and the smallest last. In Munster, the surplus of births is little more than a third of the amount in Coslin. Munster had by far the smallest proportion of births, namely, only 1 between 31 and 32 inhabitants. As the mortality is only 1 in between 40 and 41 inhabitants, which is under the average for the whole country, the small surplus of births is entirely owing to a deficiency of these and not, as,

* For a statistical view of the births and deaths in the Prussian States, in the 15 years from 1820 to 1834, see No. XLII of this Journal, (Feb. 1838,) page 447.

might be supposed, to an increased mortality. This fact being regularly observable every year, shows that it must depend upon some circumstances peculiar to the district.

Of all the government districts of Prussia, Coslin presents the smallest amount of mortality, viz: not quite 2½ per cent., or 1 to nearly 49 inhabitants. This chiefly explains the reason why the surplus of its births is so great, since it exhibits by no means a very large proportion of births, which only amount to 1 in rather more than 24 inhabitants.

From a comparison of the districts of Coslin and Munster, with reference to the ages of persons who died in those places in 1836, it would appear, that the proportion of deaths in 100,000 inhabitants was as follows:

	Coslin.	Munster.
Children under the age of 1 year, including those who were still-born,	596	501
Children from the commencement of the 2d year to the completion of the 14th year of their age,	338	512
Adults from the commencement of the 15th to the completion of their 70th year.	840	1062
Above 70 years of age,	274	396
All ages added together,	2048	2471

From the above statement it would appear, that the proportional mortality of infants under one year is rather greater in Coslin than in Munster; but in the period embraced between the completion of the 1st and 14th years, a striking disparity exists, the amount of mortality in Munster being almost a third more than that of Coslin. In the active period of life, viz: from the age of 15 to 70, the deaths in Coslin are only 840, and in Munster 1062, in a population of 100,000. But, in the former place, there were comparatively fewer individuals of the ages between 15 and 70, than in Munster; because, owing to the rapid progress of population, there were more children to an equal number of inhabitants, and, consequently, the mortality in these two districts differs far less in the active period of life than in childhood. It is the same with respect to that part of the population above 70 years of age. Among an equal number of inhabitants there must be more above the age of 70 in Munster than in Coslin; but then there are also more deaths among persons of that age in Munster. Hence it may be inferred, that circumstances are peculiarly unfavourable to youth in Munster.

Next to Coslin, the districts of Stettin, Marienwerder, and Bromberg, presented, in 1836, the greatest surplus of births. In comparing the district of Oppeln with Coslin, we find that the proportional mortality of children under 1 year is much greater in the former, amounting to nearly a fifth of the whole mortality, whilst in Coslin it is only about one-sixth. But the most striking difference exists among children from the beginning of the 2d year to the end of the 14th, there dieing in Oppeln nearly three times as many as in Coslin. The great mortality in Oppeln is not altogether owing to the prevalence of ordinary epidemics, the ravages of which are usually confined to particular years, but is to be ascribed to the annual recurrence of diseases dependent upon permanent circumstances. Even in the active or business period of life, between 15 and 70 years of age, the mortality of Oppeln is found to be considerably greater than that of Coslin, in the proportion of 7 to 4. The mortality falls heaviest upon the younger part of the class, for, late in life, the deaths are so much diminished, that, though the number who died above 70 in Oppeln is proportionably greater than in Coslin, yet the relative proportion, on the same number of inhabitants, is only 5 in Oppeln and 4 in Coslin.

The number of marriages contracted in 1836 throughout the Prussian States was 125,391, being in the ratio of 928 new marriages on an average of 100,000 inhabitants, or about 1 marriage to about 107 persons. In particular districts,

the ratio of marriages to the population varies considerably. Thus, in Oppeln, which shows the greatest proportion, there were 1075 to 100,000 persons, whilst, in Treves, which has the least proportion, the same number of inhabitants give only 790.

The number of marriages contracted is considerably influenced by accidental circumstances; the proportion has, however, been progressively increasing of late years, as shown in the following statement:

In the Year	New Marriages.
1820	109,625
1821	106,000
1822	106,160
1823	102,247
1824	107,472
1825	112,171
1826	111,939
1827	106,270
1828	104,788
1829	108,627
1830	110,534
1831	98,673
1832	127,217
1833	130,540
1834	129,494
1835	123,953
1836	125,391

Although the population during the years enumerated has increased with a pretty regular progression, the number of marriages between 1820 and 1830 fluctuated between 102,247 and 112,171. The alarm occasioned by the cholera in the interior and eastern parts of Prussia in 1831, diminished the number of marriages to 98,673. Since then, however, the number has increased so as to range between 123,953 and 130,540. The cause of the first increase in 1832, may probably be assigned to the celebration of those marriages which had been agreed upon previously to the breaking out of the cholera, and deferred during its prevalence. But this cause does not account for the continued increase of marriages during the subsequent years, at a greater rate than the proportional increase of population.

The number of children born in wedlock, in the course of 1836, was:—

Boys	263,960	
Girls	248,500	
Together		512,460
Out of wedlock:—		
Boys	19,540	
Girls	18,622	
Together		38,162
Total		220,622

Accordingly, of 100,000 children, 6931 were illegitimate; and, therefore, less than $\frac{1}{13}$ but more than $\frac{1}{14}$ of the children born were illegitimate; or, to be more accurate, of all the children born $\frac{7}{1000}$ were illegitimate.

These, also, have been the usual proportions for several years past in the Prussian dominions.

The places furnishing the smallest proportion of illegitimate births are situated in Westphalia and the Rhenish Province. In these districts, the proportion

varies from 224 to 94 in the 100,000. In the four districts of Marienwerder, Bromberg, Posen, and Oppeln, which are, to a great extent, inhabited by descendants of the Sclavonic race, the illegitimate births vary from 265 to 218 on every 100,000. Coslin and Gumbinnen furnish respectively 275 and 278 illegitimate births to the 100,000. In the above named districts, the moral habits of the great mass of the people produce the most decided effect; for, as to other circumstances which might exert an important influence, such as descent, religion, legislation, manufactures, density of population, and the concentration of inhabitants in great towns, there is much variation in those districts, without affording ground for drawing any precise inference on the subject. In the small district of Erfort, which, owing to the irregular position of its territory, varies so much in its manufacturing and moral relations, the average number of illegitimate births is, incidentally, just the amount of the average for the whole of Prussia, namely, 282 for every 100,000 inhabitants, or rather less than 1 in 13 of the whole number of births. In the ten districts, also, where the average number is exceeded, no particular circumstance can be referred to as explanatory of the cause.

In the great towns of Prussia, the proportion of the illegitimate children born during 1836, to the number of inhabitants, was as follows on every 100,000:—

Towns.	Illegitimate Children.
Breslaw	65
Konigsberg	61
Berlin	60
Posen	60
Dantzic	52
Cologne, with Deutz	49
Stettin	43
Magdeburg	38
Aix-la-Chapelle	25
Elberfeld, with Barmen	16

Here, again, is displayed a remarkably small number of illegitimate children born in the province of the Rhine; but it may be still more difficult to explain why, under relations so different, Berlin and Posen have an equal number of illegitimate births; and, on the contrary, why, under similar relations, the numbers should be so different in Konigsberg and Stettin.

It is ascertained, by experience, that in a great part of Europe the number of males, in comparison with females, does not bear the same proportion among illegitimate children as among those born in wedlock. In the fifteen years from 1820 to 1834, on an average, for 10,000 females, the males were—born in wedlock, 10,597—the illegitimate, only 10,310. the surplus of boys, therefore, in the first case, amounted to nearly 6, and in the second case to only $3\frac{1}{10}$ per cent. In the single year, 1836, the difference was less; for instance, in that year there were, for 10,000 female children, 10,622 males born in wedlock, and 10,494 illegitimate. Whether the difference between the one surplus and the other be merely an accidental fluctuation or a permanent change, we are not at present able to determine. G. E.

AMERICAN INTELLIGENCE.

On the Value of the Catoptric examination of the Eye as a means of Diagnosis. By I. Hays. M. D.—Since the publication of the preceding No. of this Journal we have met with several cases which strikingly illustrate the value of the catoptric examination of the eye as a means of diagnosis. One of these we will relate.

Mr. T. a farmer, ætat. thirty, whilst employed last November, in feeding a threshing machine, was struck in the left eye by a grain of wheat projected from the machine, which made a small wound in the cornea near its nasal margin. Severe inflammation followed, with loss of vision, for which he was judiciously subjected by Dr. T. A. Worrall of Lewistown, Penna., to a strict antiphlogistic treatment followed by an alterative course of mercury, &c. Some time after the inflammation had been subdued Mr. T. found that his vision with the left eye began to return, and it continued to improve until he was able to distinguish large objects, to count the number of fingers held before his eye, &c., but he could not read even large type. Being desirous of recovering his sight entirely he came to the city to consult us.

When we first saw him, which was six months after the injury, the eye was entirely free from inflammation, and the only abnormal appearance we could detect by the ordinary method of examination was a small cicatrix near the nasal margin of the cornea to which a minute portion of the margin of the iris was adherent, and the pupil consequently was slightly irregular. This was not, however, sufficient to account for his imperfect vision; and we were inclined to attribute the defect to some injury of the internal tissues of the eye, probably involving the retina, from the inflammation which had followed the injury.

Rather as a matter of curiosity than with any expectation of detecting the cause of the defective power of the eye we determined to examine this organ catoptrically. A solution of belladonna was dropped in it, and when the pupil was partially dilated a lighted candle was held before it, when to our surprise the only image we could perceive, though the pupil was perfectly clear, was the first upright one; indicating that the other reflecting surfaces were absent. (See preceding No. of this Journal, p. 255.) In a short time the pupil became fully dilated, and there was then visible a very small opaque substance just behind the upper and outer edge of the iris. This was a portion of opaque capsule. We did not then hesitate to state to the patient that the lens of his eye must have been dislocated by the blow from the grain of wheat, and been subsequently absorbed; that he was in the condition of a person who had been operated on for cataract, and required only a proper lens on the outside of his eye to enable him to see. I accordingly accompanied him to Mr. M'Allister's, in Chesnut street, and having procured a suitable pair of spectacles, he found, to his great delight, and scarcely less to mine, that with them he was able to read, with perfect facility, small print.

Note on Extraction of Foreign Bodies from the Eye. By I. Hays, M. D.—Since our remarks on this subject (p. 282 of this No.) were printed off, we have had occasion to remove from the eye of a patient a fragment of stone about two lines long and one and a quarter thick, of an irregular shape, somewhat resembling a double pyramid applied base to base. It had penetrated the cornea near its nasal margin, and fallen into the lower part of the anterior chamber. The accident had occurred ten days previously. A small incision was made at the lower part of the cornea with a cataract knife, and the stone grasped with forceps, but from its shape it could not be retained. A second trial having been equally unsuccessful, and not wishing to incur the risk of injuring the delicate tissues of the eye by repeated attempts, I bent an Anel's probe into the shape of a hook, introduced it through the incision and readily extracted with it the piece of stone. This instrument may in some cases be usefully substituted for the forceps, when the foreign body is of such a shape as not to be easily held in the grasp of the latter, and we have written this note to recommend it for that purpose.

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Cases of Negro Poisoning. By Alexander Somervail, M. D. of Essex County, Va.—In May 1800, I became a sufferer from diarrhœa; such as I then thought different from any species of diarrhœa I had heard of. It was accompanied with much griping, and large evacuations of a dun colour, frothy, and of the consistence of molasses. I determined to take some cathartic to carry it off, from a feeling of some irritation acting within. I fortunately took an ounce of cream of tartar, which removed the complaint—it returned and was removed two or three times, until I noticed that it always returned after dining at a certain house, where I was obliged to be. I soon was satisfied it was accomplished by the man-servant at the table; and though taking all care, I could not escape until he was taken sick and confined at his wife's several miles off. I then could eat and drink there with safety. When he returned I was taken again. I then endeavoured to avoid eating there, and gave offence thereby, so that I was obliged to tell why I kept away. As long as I forbore to eat there I was well. In September, I was obliged to be there several days; and before leaving there, I thought I saw him take the opportunity of handing me a cup of tea, to put something in. I examined it attentively, and perceived nothing amiss. I therefore drank it, and soon after took leave; on my way home in about half an hour, I was in great pain; vomited with relief, but diarrhœa followed. Next day, I had to ride twenty miles from home and return, and as I had often restrained the diarrhœa by a few drops of laudanum to allow me to go on, I did so now. When about two miles from home, in returning, and nearly dark, I was obliged to get down, and there to stay for two long hours, and with difficulty reached home. I took my dose at once, was relieved before it operated, and another dose next day removed all uneasiness. The servant was sent away at the end of the year, and I remained free.

In 1814, I had offended our cook; she brought the diarrhœa upon me again; at first, slight, and being aware of her, I got along tolerably till the summer of 1816. I thought she had such things placed by me at table as she knew I would use, or in the bread directed to be given to me, so that I only at the table was affected. Now she became more determined, and I could not prevent it. I was obliged to take cream of tartar almost daily,

and my family entreated I would not take any more, believing I would die if I did; but that was my only help. After taking my dose in her presence, and knowing why I took it, and no person near, I told her if I was obliged to take any more, I should come prepared to kill her, as there was no other chance for me to live; but if she would let me alone I would forgive all; so she let me pass. Soon after, being a hired servant, she became the property of another master who sold her. There was an old negro man whom I saw frequently cure such patients, and recommended him, who heard of my situation, and offered his services to me, but as I was getting well and knowing how powerfully his remedy operated, I refused; he said he would give me a small portion which I took with advantage: this was a decoction of the root of the Podophyllum Peltatum, and which I have often used in similar cases with great advantage. When this diarrhœa continues, the pain ceases, and it comes on suddenly without warning, so that it is difficult to get to a suitable place, sometimes impossible. I believe diarrhœa is always brought on by acrid matter generated in the alimentary canal, or taken into it; the method of cure must be to remove the cause and prevent its reproduction. When from acrids taken in this must be prevented, and when done by our slaves it is very difficult. I believe they never miss an opportunity until death is effected, unless it is put out of their power. There is much of it, and by various articles, producing various diseases.

This is the diarrhœa mentioned by Dr. Chapman as occurring at New Orleans, and Richmond in Virginia. After the diarrhœa is checked or removed, other remedies are necessary to restore health; my dependence for that has been the tinct. ferr. mur. I will add to this a case of negro-poisoning of a different character.

In August, 1802, a young married lady, and near neighbor, had intermittent fever, and applied to me. I gave the usual remedy, and had no doubt of success; this did not answer, and without telling me, she sent off a dozen miles for a more experienced physician. I heard of this, and one evening she sent for me in all haste, saying, unless relieved she should die. I found her vomiting an indigo coloured fluid, with great anxiety, and difficult respiration, pulse small, feeble and slow. I gave laudanum which quieted all things for the night. Her physician was sent for as well as another to whom we looked up. When we met I suggested poison as the cause, for which I was ridiculed, but the prescription agreed upon at once, was such as my opinion approved. After drinking a pint of water from the spring she took four grains of sulphate of copper in half an ounce of water, and water after it. This was soon brought up, and the water and sulphate repeated as soon as we could; when this was vomited freely, all uneasy feelings were removed; it ought to have been mentioned, that when we met she was vomiting, &c., as when I saw her the evening before. Various remedies were prescribed, and I was directed to repeat the emetic whenever the sickness, anxiety, &c., returned. This I had to do every day, and sometimes twice for several days, and always with relief, until I told what I believed was the cause: after that we had some days of greater suffering before they would agree to my proposition. This was for me to bring from home every thing she ate and drank. After another emetic, this was done; she recovered daily, and at last said she was well enough to live as usual. While all this was doing, many attempts were made by their negroes to bring her such things to eat as they knew she liked; but

all was faithfully resisted. In a few days after we left her, I was sent for again, had to repeat the emetic, and send her on a visit to a friend where her negroes could not go; she did not complain any more.

I know very well this idea of poisoning by our slaves is ridiculed by most medical men: but it is sometimes said "seeing is believing, but feeling is the truth." I have seen and felt what I have here written; the facts are indisputable whatever the cause may be.

Loretto, Essex County, Va., March 7, 1839.

Case of Exostosis of Upper Jaw, successfully treated by B. A. Rodrigues, M. D. of Charleston, (communicated by Professor Geddings.)

On the 14th August, 1837, Charity, a servant woman of Mrs. Miller, called on me to ascertain whether I could afford her any relief in her wretched condition. She had been labouring under incessant and agonizing pains in the antrum highmorianum of the right side, which she regarded as the consequence of the impaired condition of the teeth. On this supposition, she had several of them extracted, without any appreciable abatement of her sufferings. Yet deluded with the belief that some one of the remaining teeth was the secret agent of all she suffered, she persisted in having more extracted. Still the evil continued, the suffering was unabated, the cause undetected, and to add to the depression of her hopes, and the aggravation of her ills, a purulent discharge oozed from the empty sockets of the affected side. She again had recourse to medical advice, hoping that this new phasis of her malady, might lead to some indication that would relieve her; at least, that it might reveal its hidden sources, its condition and its prospects of being remediable. And here for the first time, was it suggested that the antrum was in an unsound state.

It was at this moment, under these circumstances, that she applied to me to perform an operation, which her medical adviser declared to be indispensable. At first, I imagined it to be an abscess of the cavity from the pus discharged, from the strange sensations experienced, and from the greater frequency of this disease over others peculiar to this part. I inserted a trocar into the socket of the second molar and instead of the gush of matter I had expected, the passage of the instrument was intercepted by a hard dense impregnable substance. The existence of an exostosis now forced itself on me. To make assurance doubly sure, I had access to several of my medical friends, among whom was Dr. Geddings. On examination of the part, the consideration of the symptoms, the obstinate nature of the disease, they concurred with me in opinion, that an exostosis was present, and that the sole indication of relief was its extirpation. Accordingly, on the 18th of August, the above gentleman with several others of the profession was present, when I proceeded to perform the operation. With a common scalpel, I dissected away the gum from the canine teeth to the last molar raised the flap which it made from the alveolar process, and with a trephine opened into the cavity. Success was easier than had been anticipated in consequence of the carious condition of the process which was so general on the affected side as to reach from the second incisor anteriorly to the pterygoid process posteriorly. In the loss of substance the external parietes of the cavity shared, so that the bony tumour which filled up and occupied it could be readily reached. The trephine was applied, the cavity enlarged, and the exostosis removed. It measured in circumference three inches, was light, and cancellated on its

surface, but dense and resisting in its more internal layers. There was little or no hemorrhage to delay the operation, or any application to arrest it. After removing every spiculum of diseased bone, and cleansing out the cavity, the flap was replaced and to nature was entrusted the cure. Granulations sprouted up in full luxuriance, and in the short period of four weeks, the woman was in enjoyment of excellent health. It may be well to remark that when I saw her for the first time, the only untoward symptom the disease presented that might have determined the diagnosis of exostosis, was the occlusion of the nasal cavity. Respiration through this natural channel was impossible, but such an obstacle I can readily conceive may occur from a high and acute inflammation in the lining membrane of the part. An incipient abscess is almost invariably announced by such an obstruction and a preponderance of the affection over the other naturally suggested its existence. Bordenave and Abernethy have both noticed the presence of exostosis in these cavities, but to my recollection there has been no history of them recorded, where the tumour was so large, where such extensive injury was inflicted on the adjacent parts and where nature after the causative malady had been removed, exerted her recuperative powers, so benignly and so quickly. Its early history, its duration, its probable causes, whether local or constitutional, are involved in mystery, the patient calling on me but a short time before the operation, and seemed to know nothing more of it than her sufferings.

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Notice of the Cape May Albinos. By Dr. Samuel L. Marcy.—The two female Cape May Albinos, a short account of which may be seen in the *American Medical Intelligencer*, vol. i, No. 12, Art. 3, continue in a healthy condition. The mother seems destined to propagate a family of them, having had three children, possessing all the peculiarities of the African race, and three Albinos. Her two first children were fair male representatives of Africa, then followed two female Albinos, then by way of punctuation a black female, (now dead;) and on the first of June last, commenced another line, with another Albino male. Her coloured children being all dead, her family consists of three children, possessing a more delicate skin than any white children I ever saw. The father and mother, Peter and Kezia Humphreys, both fair emblems of the African race, were born and apprenticed in the county of Cape May, and always maintained a character for industry, integrity and virtue, far above the majority of the common negroes of the neighbourhood. I shall not attempt assigning any thing like a reasonable cause for this freak of nature in this black and white family. The mother accounts for the appearance of the first Albino, by attributing it to a severe fright she received, by the falling down of an old white mare while she was driving her, attached to a wagon. If the fright had any effect upon the child in utero, why was not the child marked in form as well as colour? The mother was accustomed to drive the mare daily: if the fright had had any effect, it should have produced a half horse, half mule, or half alligator. At first view I was unwilling to admit, that the Great Creator ever left his work in so loose a manner, that the imagination of the mother should alter or determine the form or colour, but the subsequent children go further to strengthen the doctrine, that the mind of the mother may affect the fœtus in utero, than any fact that ever came under my notice. The mother evidently suffered as much mortification and distress at the appearance of her white

offspring, as any respectable white lady would at becoming the mother of a perfect Negro child; the mother appeared ashamed of, and very reluctantly exposed her child to the gaze of the public; made use of every endeavour to render the child dark, by exposing it to the rays of the sun, &c., &c.; her mind dwelt incessantly upon the child, until the delivery of her second Albino; and her first and immediate question on delivery was, "what colour is it?" If the thing is to be admitted as possible, here was a continued cause operating to produce the effect; after the birth of the second white child, she became reconciled, and the suspicions of her husband, which had been excessive, now subsided, and the affairs of life went on as smoothly as if the children had been of the proper colour, and, in due time, she gave birth to a full-blooded African, and all was well; and, in the proper course of time, she became pregnant a sixth time: about this time her house was much frequented by visitors from Philadelphia and elsewhere, to view the "great curiosity;" and by dint of much persuasion she consented to visit Philadelphia with her children, and exhibited them at the Masonic Hall and other places for several weeks, in September, October and November last; the jeerings and ungentlemanly remarks made by, I am happy to say, a few ignorant men, caused her much mental suffering, and revived all her former recollections and associations; early in the winter she returned to her own home desponding, and, on the first of June, gave birth to her third and last Albino. The question now arises, was the above cause sufficient to produce these effects? or did the same cause that produced the first, whatever it might have been, continue to operate until it produced the third? and what really was the remote and proximate cause? I leave to physiologists, more able to determine than myself.

To those who have not had an opportunity of seeing these Albinos, the following description may not be uninteresting; they have all the features of a regular built negro child, flat foot and broad, leg inserted in the centre of the same, with a natural curve of the tibia, thick lips, broad nose, hair woolly, skin unusually delicate and fair, eyes light blue, cornea surrounded by a delicate ring of pink or peach-blossom, the pupil encircled with the same coloured ring, giving to the eye a peculiar appearance; the sight suffers by a strong light, which causes the child to apply its hand above the eye for a shade; hair long and curly, resembling combed worsted in colour, or a white spaniel; eyebrows and eyelashes the same; intelligent, active and playful; a perfect lusus naturæ.

Cold Spring. N. J., Aug. 15th 1837.

[The preceding communication was mislaid, and has been only just recovered. The delay in its publication is due to this accident.—Ed.]

Abstraction of the Uterus after Delivery.—The following shocking instance of malpractice is recorded in the *New York Journal of Medicine and Surgery*, by Jno. H. Griscom, M. D.—"On the 7th of April, 1839, at the request of Ira B. Wheeler, Esq., coroner, I examined the body of Mrs. Cozzins, the wife of a respectable mechanic, No. 328 Madison-street, at the time absent from the city. I was assisted in the examination by Dr. S. C. Ellis, in the presence of Drs. Nichols, Lobstein, and Walters. Before the examination, we obtained the following history: Mrs. C. was delivered of a healthy, living child, about one A. M., without any other assistance than her sister and a female friend, both married, and the former a mother. The cord was tied and cut *secundem artem;* but the placenta was retained beyond the usual time. Three hours having

elapsed without its disengagement, the sister went for a physician and obtained the services of Septimus Hunter, who represented himself to be a physician, but was at the time a clerk in a drug store. Upon his arrival, he immediately addressed himself to the task of removing the placenta, the successive stages of which operation will be mentioned presently.

"We were shown prior to the dissection, a mass of fleshy substance in a washbowl, which I at once recognised as a uterus; also, in another vessel, the placenta was shown us, which was entire, but without a vestige of the umbilical cord attached to it. The latter was subsequently discovered in a pail of dirty water.

"On stripping the body, the abdomen was found very sunken. The usual incisions were made, and the following uncommon appearances were presented: 1st. A total absence of the uterus. 2d. The broad ligaments much torn and ragged, and partly deficient. One fallopian tube was absent, but both ovaria remained *in situ*. 3d. The upper extremity of the vagina was open and free, so that the hand introduced from without would pass directly into the cavity of the abdomen, and the intestines could be touched. The intestines were high up as left by the contracting uterus. 4th. A considerable quantity of extravasated blood was seen on each side near the ovaria, forming spots of ecchymosis beneath the membranes. No effused blood was seen, however, within the abdomen, except this. 5th. A laceration of the vagina, about an inch and-a-half in length, a short distance from its superior extremity.

"By reverting to the uterus, we found the deficient parts attached to it, viz: one fallopian tube, entire; a portion of the broad ligaments, and about an inch of the upper end of the vagina, which had been divided by an even circle, though manifestly without the aid of any cutting instrument. The external surface of the uterus was about half denuded of its peritoneal coat, leaving the muscular fibres entirely bare. Its external surface was smooth, and the part where the placenta had been attached very apparent, presenting a slight brown colour. The whole organ was about the size of a child's head at birth. Large quantities of coagula were about the body; the bedding was thoroughly soaked with blood, and a large puddle of it, of a bright red colour, covered the floor beneath the bed.

"The examination of an intelligent female witness before the coroner's jury, developed the following facts:—Immediately after the *quasi* doctor arrived, he took hold of the cord, and making strong traction upon it, he completely inverted the uterus, the placenta still adhering, pulling still harder, he severed the cord from its attachment and gave it to the witness. He then took hold of the placenta, removed it, and laid it aside, saying there was more to come away still. He then grasped the uterus of the unfortunate patient, and by dint of 'excessive' pulling, after about three quarters of an hour, (during which period he relaxed his efforts occasionally to rest and remove his coat, the miserable patient constantly uttering the most piercing and heart-rending cries, such as 'you are tearing my heart out, &c.,') he succeeded in dragging the uterus from its attachments, and separated it from the body, holding it in his hands, and exhibiting it as a proof of his prowess and skill, saying that 'he never had met with such an extraordinary case before.' When asked what it was, he replied 'either a polypus or a false conception.' During this brutal operation, the groans of the suffering woman were at first strong and loud; these together with the force which the man was seen to use, excited the alarms of the attendants, who urged him to desist and allow other medical advice to be called; but with incredible hardihood he persevered, insisting that all was right, that she must endeavour to be patient, and that *he would be responsible for her life*. Towards the close of the performance, her cries became more and more faint, and at length entirely ceased. He thought she was endeavouring to support the pain with patience, and encouraged her in so doing by words. When he turned to look after her, and to feel her pulse, he found that she was dead.

"It is due to the profession to say, that the performer of this horrible tragedy

is not, *de jure*, a member of the profession, though he asserts that he has a *recommendation* from three surgeons of the British Navy, of his medical proficiency, and that he has had a large amount (three hundred cases) of obstetric practice. He appears to be about thirty-two or thirty-three years of age, and has been in this country two years."

Another case of a similar character which occurred in the town of Pulaski, New York, is quoted by Dr. Griscom. The details were furnished by Mr. T. S. Markoe, an intelligent medical student, who was cognizant of all the facts at the time of their occurrence, and saw the preparation.

"The woman had had a perfectly natural and easy labour. The child was born and removed from the mother, but the placenta was retained. After waiting a certain time, the practitioner in attendance judged it necessary to pass in his hand in order to extract it. He did so, and as he thought, found the placenta attached very firmly near the mouth of the uterus. He then undertook to peal it off from its attachment, but found the greatest difficulty in doing so, it was so closely adherent that repeated and long continued efforts were made without success, Supposing, however, that the life of his patient and his own professional reputation depended upon his succeeding, he redoubled his efforts until, as he himself said, he was exerting a degree of force which made him fearful for the consequences. During all this time the woman was screaming loudly, and exclaiming that he was killing her. Still thinking that he had the placenta, he persevered, until at last it yielded entirely, and he commenced to extract. The extraction was strongly resisted by something, and much exertion was still necessary to bring the mass down to the external parts. Labouring under the same fatal delusion, he succeeded by dint of main force in bringing it quite out from the body of the mother. 'Judge of my surprise,' says he, in the paper which he wrote in his defence, 'when I found that I had the whole uterus in my hand.' However, the mischief was done, and he thought all he could do, was to separate the few remaining attachments, which he did, by tearing them off, and put the whole out of sight as quick as possible. The girl to whom was allotted the office of disposing of it, seeing in the whole procedure something suspicious, fortunately preserved the specimen. The poor woman immediately after the performance of this barbarous operation, began to sink, and was soon in a dying condition. No hemorrhage ensued, but the shock to the nervous system was such that she expired in about two hours.

"On examining the uterus, it was found about twice as large as a child's head at birth, containing within its cavity, the placenta *loose and unattached*. One of the ovaries had been brought away with the lacerated broad ligament; the broad ligament of the opposite side and the fallopian tube, were torn through quite near the uterus; the posterior surface of the uterus was rough and covered with cellular shreds and without a peritoneal coat; the peritoneum still covered the anterior and superior parts. The old man says that his mistake occurred in this way: the edges of the os tincæ being relaxed and protruding into the vagina, he mistook this protrusion for the edge of the placenta; passing his fingers into the *cul de sac* which the vagina makes with the neck of the uterus, he perforated the coats of the vagina supposing he was separating the placenta. His fingers were thus behind the uterus which he proceeded to tear from its connections. From inspection of the uterus, it is plain that he separated it from the peritoneum, over the whole posterior surface, and perforated this membrane at its upper part. Supposing then that he had detached the placenta, he extracted the uterus by main force, as above mentioned. The vagina was torn off very short."

The following further details are given by Dr. H. T. Noyes:—"'On the morning of April 29th, 1838, I was called in consultation with Dr. * * * * * * to see Mrs. W. who was in labour, and was said to be dying; I arrived about one o'clock, A. M., and found myself in the midst of one of the most unparalleled scenes of distress and agony that could well be imagined; the doctor delivering what he called an 'adhered placenta'—the father and husband

of the patient, and the female attendants, uttering loud lamentations, and the patient herself, at the top of her voice, telling the doctor he was killing her, and begging him to let her alone: I placed my finger upon the pulse and found that she was rapidly sinking, at the same time inquiring of the doctor what was the nature of the case; he told me that it was an adherent placenta, such as he had never before met with in his practice, or read, or heard of before, and that he was nearly through with his delivery, and should finish in a minute or two, which he did, in about the time specified, remarking to me 'that it comes like tearing raw sheep-skin,' that the placenta adhered to the neck and mouth of the uterus, and that there were some shreds of it left, but that he thought they would be discharged with the lochiæ.' I told him that the patient was dying, but at his request made a hurried examination *per vaginam*, found shreds of cellular tissue and membrane reaching nearly or quite to her knees, but found no uterus: on telling him this he remarked that it was there, and had contracted well, and placing his hand above the pubis, he said he could feel it contracting. By this time, the woman, from the relaxation of the muscular power and the near approach of death, began to slide from her seat, (made by tying three chairs together) and was prevented from descending to the floor by my seizing her under the arms and requesting assistance to lay her on the bed: after which she lived about ten or fifteen minutes. From the time of my arrival to her death was about twenty or twenty-five minutes; the attendants informed me that the doctor had been at work an hour and a half in removing the supposed placenta before I arrived. I would, finally, remark that the patient was a large and rather fat woman, that this was her fourth child, which was large and healthy, that the labour had continued about fifteen hours, the doctor himself admitting, that it was tolerably easy, and that the woman was quite comfortable after the delivery, until he commenced operating.' The same letter contains the information that this individual is held to bail for the sum of $500 and that his trial will probably take place the ensuing autumn."

A third case is recorded by Bartholin, and a fourth by Mr. Cooke. (*Med. Chirurg. Rev.* April 1836. p. 482.)

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Successful Treatment of Erysipelas by Raw Cotton.—Dr. F. M. Robertson, of Augusta, Georgia, in a communication in the *Southern Med. and Surg. Journ.* (July, 1839,) states, "that he has employed raw cotton, in the treatment of erysipelas, as recommended by M. Reynaud, with very satisfactory results. Two cases in which it was employed, are related. One of these was a little girl who had a week previous, accidentally received a small wound, which penetrated through the scalp to the cranium. The wound had suppurated, and, on close examination, Dr. R. found that it had taken on erysipelatous inflammation, which had extended to the right ear, and, on the forehead, as far as the nose and appeared to be progressing over the entire scalp and face. It was in the afternoon when Dr. R. saw her: during the morning, the febrile excitement was high, and she had been, occasionally, delirious. Dr. R. immediately had the hair cut as close as it could be, with a pair of scissors, and a cold bread and milk poultice applied to the wound, and the entire scalp and forehead covered with the bats of cotton, as in the former case; at the same time, a dose of calomel, to be followed by epsom salts, was administered. The relief from the cotton was immediate; all the bad symptoms were relieved, and, after the operation of the medicine, the general excitement was moderated and the delirium did not return again. In this case the inflammation progressed as far as the cheeks, and to the left ear. The cotton could not be applied over the eyes and nose, as the patient was too young to understand the importance of submitting to such a cumbersome application; it, however, arrested its further progress from the cheeks and scalp. All the local symptoms were relieved as soon as the cotton was applied; no blisters formed on the forehead or cheeks, and the desquamation of the cuticle was very slight: much less than I have ever seen it in the mildest case of this disease, when treated without cotton. During the progress of this case, which lasted for seven

days, the only internal medicine administered, except the first cathartic, was an occasional saline aperient and cold lemonade or soda water, made by dissolving the common soda powders of the shops.

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Case illustrative of the Etiology of Spontaneous Amputation of the Limbs of the Fœtus in Utero. By A. H. Buchanan, M. D. of Columbia, Tennessee.—In the month of February last, I was called in haste to the country, about 3 miles, to see a negro woman who was said to be suffering from severe pain in the back, and uterine hemorrhage. She was the mother of ten children, aged about 40 years, and had miscarried three or four times. On my arrival, I found she had aborted, and that the uterine hemorrhage had ceased. Upon an examination of the fœtus, which was between three and four months old, and perfectly formed, except a considerable flattening of the head laterally, I found the umbilical cord twisted about the thigh and neck in the following manner: the cord passes from the umbilicus under the right thigh, just above the knee joint, and continuing completely around it, passes under itself, and ascends in front of the chest to the right side of the neck, around which it twines twice, or rather twice and an half, so that two coils are seen in front of the neck, and three behind; it then passes in front of the left shoulder to the placenta. From the compressed appearance of the cord opposite the left shoulder, I think it passed under the left armpit to the placenta. Thus circumstanced, it is evident that any efforts made by the child to extend the thigh tightened the cord about the neck, and also about the thigh, as well as dragged upon its umbilical extremity, and obstructed the circulation. The same effects also are produced by extending back the head; but in this last action, the placental extremity of the cord is immediately pulled upon. It is very fair to conclude that the fœtus thus situated came to its death, either from the compression of its throat by the cord, or from its obstructed circulation, or from both; and that the abortion was a consequence of its death. At many points where the cord twists upon itself, it is very much compressed, or rather atrophied. But the object of communicating this case, is to call attention to the effects produced upon the the thigh by the twisting of the cord around it. It may be seen by any present, that at the point of compression, only the integuments intervene between the cord and bone, all the other parts having disappeared; but the limb below the ligature, appears as fully developed as its fellow, and the integuments immediately under the ligature appear sound. Now it is highly probable, had the child lived to its full time, the leg would have been amputated by the process of absorption carried on in consequence of the pressure of the cord around the limb, and that the opposite surfaces would have healed as is usual in such cases, during the process of amputation; the limb below the ligature retaining its vitality by its connection with the integuments, they being the last parts to give way during the amputation; that the leg below the knee joint would have been more or less atrophied before its complete separation, is almost certain.—*Minutes of the Med. Soc. Tennessee*, May, 1839.

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Fresh Vaccine Virus.—Dr. Charles A. Lee of New York, informs us that he has lately obtained virus from a cow affected with kine pock. "It is very common," he states, "for the cows that go on board our New York, Liverpool, and Havre packets, to have this disease; and the cow from which I got it came from one of these packets. The agent informed me that there is hardly a time in the year, but that some of the cows are affected with it."

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Dr. Bartlett's case of Double Consciousness.—Dr. Bartlett writes to us that R. M., whose case is reported in our preceding number, p. 42, died about noon, May 21. "The evening before, she took, in the course of an hour, twenty-eight grains extract of stramonium. She had before taken twenty with impunity. I had some months ago, prescribed two grains every six hours, for the spasmodic cough. She had gradually increased the quantity till she arrived at the dose just stated. She was comatose throughout the night, and up to the time of her death.

"*Dissection* threw no light on the *peculiarities* of the case. There was very

great vascularity of the membranes of the brain; and thinning and redness of the gastric mucous membrane. The scalp was a full quarter of an inch in thickness, and rigid as sole leather."

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Albany Medical College and the Thomsonians.—"It appears from the Albany Journal of the 20th of June, with which we have been favoured by a Correspondent, that the Thomsonian Medical Society of the State of New York held their fourth annual meeting at the Senate Chamber, of the State House, in the city of Albany, June 11th, 1839. This would be news of but little interest to our readers; not so some of the events that transpired.

"It appears, from the published statement of the proceedings, that an invitation was given for the Society to visit the Albany Medical College, and that a committee was appointed 'to wait upon Dr. March, President of the Faculty, and ascertain when it would be his pleasure to receive the Society at that Institution;' that 'the committee appointed to wait upon Professor March, reported, that the professor would entertain the Society at the Anatomical Museum of the College' at a certain hour. It was then resolved, 'that it is in the opinion of this Society necessary to raise the standard of medical education among Thomsonian physicians,' (a necessity, by the way, which has always been contested,) 'we recommend the students of the Thomsonian school to acquire a more thorough knowledge of anatomy, physiology, surgery and chemistry.'

"The committee visited the Professor at the time appointed, and were 'entertained' by him; after which the following resolutions were in all gratitude passed unanimously; and the Albany College now holds the exalted position of being the first, we believe, of the Medical Institutions in the United States, publicly *patronised* by the Thomsonians!

"'*Resolved*, That the thanks of this Society be tendered to Professor March, for his generous invitation to visit the Albany Medical College this day, and for the courtesy with which the Society were treated while there; also, for the liberal proposition 'to receive with kindness into the classes of anatomy, physiology, surgery and chemistry, Thomsonian students upon the same terms as other students of the College.'

"'*Resolved*, That this Society commend the Albany Medical College to the favourable notice of all the Students of the Thomsonian School, that wish to acquire a more thorough knowledge of anatomy, physiology and surgery.'"

We have copied the preceding notice from the *American Medical Library and Intelligencer* (July 1, 1839,) and need only remark in the words of the editor of that journal, that "comment on these *unique* proceedings is unnecessary."

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Remarks on Enlargement of the Tonsils, attended by certain Deformities of the Chest. By J. Mason Warren, M. D. of Boston.—The object of this interesting paper, is to point out by the exhibition of a number of cases, the certainty and ease with which the operation for excision of the tonsils may be performed with the present improved instrument, and the great relief always experienced by the removal of these organs when in an enlarged state. Whilst nothing original is intended by the author in his remarks on certain deformities of the chest which complicate this disease, they may serve to draw attention to the relation which exists between the enlargement of the tonsils and this affection.

"In 1827, M. Dupuytren published a paper," Dr. Warren remarks, "on the lateral depression of the parietes of the chest, consisting of a depression more or less great of the ribs on each side, and a proportionate protrusion of the sternum in front, accompanied by some antero-posterior curvature of the vertebral column. A portion of these cases occurred in children of a scrofulous habit, and were invariably accompanied by an enlargement of the tonsils.

"The symptoms described by M. Dupuytren as attending this disease, were habitual shortness of breath, and difficulty of enunciation. With infants there was great difficulty in taking the breast, the child being threatened with suffocation whenever the nipple was detained for any length of time in the mouth. During sleep, the mouth was kept habitually open, and the respiration accom-

panied by great noise, and frequently interrupted by frightful dreams and cries. "These symptoms," says M. Dupuytren, "may be increased so as to prevent the development of the vital functions, and cause death in the earliest period of life. When these difficulties do not induce death immediately, they may destroy life at a later period, either in preventing the child from taking the breast, or in so altering the nutrition as to prevent the development of the strength of the different organs; in this case death does not at once take place, but the child lives in a miserable state of feebleness and emaciation, which deprives him of the greater part of his faculties."

"In 1827, shortly after the publication of this paper, Mr. Coulson, of London, published some cases in confirmation of those given by Dupuytren, adding, also, three cases of his own, of a deformity of the chest, different from that before described. "The external appearances of the chest," says Mr. Coulson, "in this second kind of deformity, are directly the reverse of those which we have just been considering. The sternum is hollow or concave anteriorly, the sides of the chest are very prominent, and the spinal column but slightly, if in any degree, altered from its natural shape; this is not so frequently congenital as the former kind, but frequently occurs in persons of a weak habit, who are narrow-chested, and stoop a great deal. The constitutional symptoms are very much the same as those attendant on the other kind of deformity." On the three cases appended to the paper of Mr. Coulson, and three of the four cases of M. Dupuytren, enlargement of the tonsils existed; but in none of them does it appear that removal of these organs was practised, although it is stated that in one or two of them the tonsils were so large as nearly to fill up the posterior part of the fauces, so that we are not enabled to judge of what would have been the change effected on the symptoms referred to the chest, had this operation been performed.

"Within the last two years twenty cases have occurred in our practice, in which it was thought necessary that an operation for the removal of the tonsils should be practised: in nineteen of these cases the operation was successfully performed; in one case the tonsils projected so little into the throat, as to make it impossible to seize them with the instrument. The operation was temporarily deferred. Of these twenty cases, fifteen were children, or less than twelve years of age.

"Of the fifteen children, eleven had more or less deformity of the chest, consisting, in the greater number, of a projection of the cartilages of the ribs forwards, with a considerable excavation of the sternum. In these patients very little curvature could be detected in the spinal column.

"In the five adults, no alteration of the parietes of the chest was perceptible.

"The symptoms occurring in these patients were as follows:

"In every one of them was more or less difficulty in respiration, in many cases the noise being so great during sleep as to make it impossible for any person to sleep in the same room; the sleep was often disturbed by frightful dreams.

"In many of the patients there was great difficulty of swallowing, liquid food being often regurgitated into the nostrils; in one case, no solid food could be taken without the previous use of a powerful astringent. About half the cases were attended with severe constitutional symptoms.

"In one case entire deafness was present. Some of the patients were liable to periodical attacks of fever; in one case, a child, five years of age, returning, latterly, as often as once a fortnight, and lasting three or four days. Eight of the fifteen children showed more or less marks of a scrofulous habit. Eighteen of the patients had both tonsils removed; the other patient being so much relieved by the removal of one tonsil, that it was unnecessary to have the operation repeated on the other side.

"In about half the patients this operation was performed on both sides the same day; in the others a week was allowed to elapse before the other tonsil was removed.

"In eighteen out of the nineteen cases, almost immediate relief was afforded to all the symptoms; in the other case, no great relief was apparent, and this

seemed to be attributable to the particular shape of these organs, the base being quite broad, and extending some distance down the throat, about half of each tonsil was removed. At the end of a short period, an appearance was presented as if they had been again regenerated; this arose from the upper and lower portions rising or curling up, as it were, after the apex had been removed. At the end of two years, this patient submitted to a second operation, followed by much relief, and is now in a fair way of recovery.

"The operation, as performed by the present improved instrument, is instantaneous—not attended with much pain—in no case was there any considerable hæmorrhage—usually nothing more than a few mouthfuls of blood are discharged. The patients are able to return home and resume their ordinary occupations, as if nothing uncommon had occurred, a slight soreness only being experienced for the few following days.

"We now proceed to offer one or two cases illustrative of the different symptoms of the disease, and may first select one which will present most of the symptoms occurring in the course of it.

"W., of Newton, Mass., five years of age, November, 1836. For the last two years, this child has been troubled by an enlargement of the tonsils, first manifested by a swelling which appeared on the outside of the throat, and supposed by the parents, at the time, to be mumps. As the disease increased, the patient gradually lost his flesh and strength, and was subject to frequent sore throat, attended by febrile attacks, these latterly occurring as often as once in a fortnight, and lasting two or three days; his breathing at night was very difficult, and accompanied with much noise. The ear of one side was inflamed, attended with a purulent discharge; he was very sensitive to any loud musical sounds. He is small of his age, thin, of an irritable disposition. The chest, on examination, is found, to be much deformed, presenting that appearance called excavated sternum, it being very much depressed in its centre, and the ribs at their union with the cartilages elevated so as to form with them an acute angle.

"The tonsils, on examination, are so much enlarged as to touch each other, and entirely obstruct the posterior part of the fauces; these swellings are distinctly felt, and even visible on the outside of the throat, at the angle of the jaw; one of the tonsils was removed, and afforded immediate relief to all the symptoms. In the month of April following, some difficulty being experienced, the other was also excised. I saw the patient, August 3d, 1837, nearly a year after the first operation. From being a miserable child, and who, as his mother stated, to use her own words, "she had not the least idea of raising," he has become a fine healthy boy—has been perfectly free from difficulty of respiration, and no febrile attack since the operation.

"The sensitiveness of the ear had diminished, and the deformity of the chest was much less obvious.

"The object of his calling, was from having experienced the day before some oppression at the stomach, which induces difficulty in the respiration; and his mother, fearing a return of his old disease, immediately brought him into town. The symptoms were explained, by his having passed a fortnight absent from home, where he had been allowed rather too much freedom in his diet.

"The following is the case of a person of a more advanced age, in which deafness was produced by the disease:

"B., aged 18—November, 1836.

"For two or three years has been subject to frequent attacks of sore throat; for three months has had a purulent discharge from the right ear; is now quite deaf in both ears, so as to require to be spoken to in a very loud voice. It is for this deafness that he applies for advice.

"On examination of the ears by the speculum, the tympanum on both sides was found to be in a perfectly sound state; on the side from which the discharge appears, the lining membrane of the ear is reddened, and covered by a purulent deposit. The patient bears all the marks of a scrofulous constitution. The tonsils are found to be very much enlarged, attended with considerable redness of the back part of the fauces.

"Astringent remedies being tried for a fortnight without effect, both tonsils were removed. On the following day he began to hear better; on the second day his hearing was perfectly restored, and sounds became even so acute as to be painful.

"In a day or two the deafness returned, and lasted a week; he then recovered his hearing, and has remained perfectly well since. I have seen him lately, more than two years having elapsed since the operation; and he has experienced no return of his difficulty.

"*January*, 1838.—A gentleman, twenty years of age, from the Western country, called on me with the tonsils greatly enlarged; he had been troubled with this affection for five years, and has tried many applications without effect. For the last year he has been unable to swallow solid food without having first snuffed a great quantity of tobacco, which apparently caused sufficient contraction or insensibility of the parts to allow of the passage of the food. If the use of the tobacco was omitted for a single night, he found it difficult and sometimes impossible to swallow.

"Both tonsils were removed at the same time; very little hemorrhage occurred, and the operation was immediately followed by great relief.

"Miss J., twelve years old, from Maine.

"This child, from infancy, has been suffering from enlarged tonsils; within a few years they have become very much increased in size, so as to materially affect her health. She is very subject to sore throat, attended with severe febrile affections. She is of a dark complexion, black hair and eyes, quite thin, and rather tall of her age.

"The tonsils are very large, fleshy, and vascular, and present less of that indented appearance usually observed where there has been frequent inflammations. When the respiration is quiet, the tonsils touch each other. The chest, on examination, is found to be very much deformed, presenting that alteration, called excavated sternum, in its most exaggerated form; the hollow lining almost large enough to contain a small orange: this deformity has been, for many years, observed by her parents.

"The breathing at night is very difficult and noisy; she is subject to attacks of deafness, and at present does not hear unless addressed in a loud voice.

"The right tonsil was removed on the 12th, and the patient at once relieved by it; five days afterwards the other tonsil was removed, leaving the throat perfectly free. On the 25th I saw the patient, and the mother informed me that all the previous bad symptoms were removed—that the child has quite recovered her health. The difficulty of breathing is relieved, and her hearing returned; a cutaneous eruption which had long troubled her, has disappeared.

"To these cases might be added one or two in which these organs were removed while the patient was labouring under an attack of severe tonsilitis. In one case the symptoms were immediately removed by the operation; in another, inflammation had extended to the adjacent parts, and an abscess formed, as is often seen in this disease. The affection, however, was much shortened in duration, lasting four days, instead of fourteen, as had been usual with his patient, who was liable to attacks every winter. The operation was repeated, and the other tonsil was removed on a subsequent attack, with the same result.

"Some time since I communicated to this society the case of a young child from Maine, who was brought to Boston suffering from a disease of the throat. The parents seemed to be quite unconscious of the cause of its troubles. There was great difficulty of breathing and deglutition. The child had a spoon, the bowl of which it placed almost instinctively in its mouth when going to sleep; its health was very miserable. The trouble was entirely explained by the discovery of the enlarged tonsils quite obstructing the throat. The removal of them was followed by great relief.

"The mother informed me that another child had died with the same symptoms a few years previous, the cause of its illness being unknown. They resided in an obscure spot, distant from any competent medical advice.

"In these cases of the disease occurring in infancy where deformity of the

chest exists, Dupuytren advises that this affection should be treated in the following manner:—The child being placed in the lap of its nurse, the hand is pressed on that part of the sternum or ribs which project; a strong pressure is then made during inspiration, and removed during the movements of expiration. This repeated for many times daily, and continued for a long period, finally results in the disappearance of the deformity, or in a great improvement of appearance. As has been attempted to show above, however, it will be evident to all that the symptoms arise, certainly in the great number of cases, not from the deformity, but from the obstruction in the throat to the free passage of air.

"The instrument* used in these operations, has usually been the guillotine instrument, as described by Dr. Warren in his work on Tumours, being somewhat similar to that of Dr. Physick; it is, however, without the steel moveable needle, used to fix the tonsil and prevent it from falling into the throat, which appears to be useless, as the blade of the instrument drives the lining membrane of the tonsils into its groove, and thus secures it; and even if this were not the case, the mucus which covers the fauces causes the excised part to adhere to the blade, so that there is no danger of its escaping into the throat.

"In very young children, where the passage of the fauces is narrower, a more delicate instrument, invented by Dr. Fahnestock, of Pennnsylvania, is, perhaps, preferable.

"From a review of the above cases, we shall find that many of the children are of a scrofulous constitution—that the enlargement of the tonsils causes great local trouble, attended with considerable constitutional disturbance—that the patient is much more liable to inflammatory attacks of the throat, than in cases where this enlargement does not exist—and that they are less liable, *after the operation, to these attacks.*

"In about half of all the cases, and in about two-thirds of the cases of children, deformity of the chest exists. Whether this depends on the general constitutional habit of the patient, or is induced by the obstruction in the throat to the free passage of air, the accounts received from parents as to the exact time when either affection was first observed, are not sufficiently accurate to permit us to determine; it is certain, however, that this deformity does not increase, but rather diminishes after the removal of the tonsils. The operation is a simple one, attended with no danger, and almost always affords immediate relief to the symptoms."—*Medical Examiner*, May 18, 1839.

Convention for the Revision of the Pharmacopœia.—We are informed that Delegates have been already appointed to the Medical Convention for the Revision of the Pharmacopœia, which is to meet in Washington in January next, by the Medical Society of New Jersey, the University of Maryland, the College of Physicians of Philadelphia, and Rhode Island Medical Society.

Cincinnati College.—The number of students in the Medical Department of this College, during the session 1838-9, was 112; and at the commencement held 3 March, 1839, the degree of M. D. was conferred upon 27 of them.

University of Virginia.—The number of medical students in this university the past session, was fifty-seven, a larger class than had ever before assembled there. The professors are, John P. Emmet, M. D. Professor of Chemistry and Materia Medica, James L. Cabell, M. D. Professor of Anatomy and Surgery, and R. E. Griffiths, M. D. Professor of Medicine. With the two first we have not the pleasure of an acquaintance, but with the last, we have had the happiness of many years intimacy, and from our knowledge of the extent of his acquirements, his zeal and industry, and his high and honourable character, we feel quite sure that he has at least contributed by his labours to the present success of the school.

* Invented by Caleb Eddy, Esq., of Boston.

Medical Department of Hampden Sidney College, in Virginia.—The number of students during the Session of 1838-9; graduated in medicine April 4, 1839, 14.

Albany Medical College.—From the Catalogue and Circular of this Institution, which has just reached us, it appears that the number of students during the past (first session) was sixty-eight, and that at its termination the degree of M. D., was conferred on thirteen of them. The faculty at present consists of Alden March, M. D., President and Professor of Surgery; Ebenezer Emmons, M. D., Professor of Chemistry and Natural History; James H. Armsby, M. D., Professor of Anatomy; David M. M'Lachlan, M. D., Professor of Materia Medica and Therapeutics; Gunning S. Bedford, M. D., Professor of Obstetrics; Thomas Hun, M. D., Professor of Institutes of Medicine; Amos Dean, Esq., Professor of Medical Jurisprudence.

American Journal of Dental Science, Devoted to Original Articles, Reviews of Dental Publications, the Latest Improvements in Surgical and Mechanical Dentistry, and Biographical Sketches of Distinguished Dentists. With Plates.—The title of this new periodical, the first number of which was published in New York in June last, is fully expressive of its plan and object. It is edited by Chapin A. Harris of Baltimore, and Eleazar Parmly of New York, both eminent Dentists. The number before us contains several interesting original communications and the commencement of a reprint of John Hunter's celebrated work on the human teeth, with notes by Mr. E. Parmly. It is the only work of the kind in this country, and deserves, and we trust will receive, the patronage of the cultivators of Dental Science.

The New York Journal of Medicine and Surgery.—This is the title of a new quarterly, the first number of which was issued in New York in July last. Its contents are creditable to the contributors; and the manner in which it is got up equally so to its publisher, Mr. G. Adlard. We shall enrich our own pages with notices or abstracts of its more interesting articles.

Memorial to Congress to Enact a Law for the Transmission of Vaccine Virus by Mail free of Postage.—We have received a letter from Dr. Jas. Magoffin, Jr., of Mercer, Mercer County Pennsylvania, in which the writer states that he has obtained the signatures of a number of the physicians in his neighbourhood to a memorial to congress, praying the enactment of a law for the conveyance of vaccine matter by mail free of postage; and he urges the making of a corresponding effort by the physicians of this city, and elsewhere. The object is certainly a useful one and deserves the active co-operation of the profession throughout the country.

Forthcoming Work.—Dr. P. Earle, is preparing a translation of Prof. Raciborski's "Précis pratique et raisonné du Diagnostic."

This work treats of Diagnosis under the heads of Inspection, Mensuration, Palpation, Depression, Percussion, Auscultation, Smell, Taste, Chemical Tests, the Interrogation of Patients, Description of the Diseases of the Skin, of the Mouth, the Throat, and the Genital Organs; the alterations of the Blood, the affections of the Nervous system, and of those of the Respiratory, Circulatory, Digestive, and Urinary Organs, &c. &c. The Translation is from the last French edition, which contains more than twice the quantity of matter of any previous edition.

QUARTERLY MEDICAL ADVERTISER.

In consequence of the extended circulation of the American Journal of the Medical Sciences, the Proprietors intend, in compliance with the wishes of many of their friends, to prefix to each No. a Sheet of Advertisements. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to Lea & Blanchard, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz: on 10th July, 10th October, 10th January, and 10th April.

For one page, - - - - - - -	Six dollars.
Half a page, or less, - - - - - -	Three dollars.

MEDICAL CONVENTION.

In obedience to a resolution of the Medical Convention of the United States, assembled in Washington City in January, 1830, public notice is hereby given, that a similar Convention will meet at the National Hotel, in the said city, on the first Wednesday of January, 1840, for the purpose of revising the Pharmacopœia of the United States.

Each incorporated State Medical Society, incorporated Medical College, and incorporated College of Physicians and Surgeons, is requested to elect a number of delegates, not exceeding three, to attend the said Convention. The several incorporated bodies mentioned are also requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours, through their delegates, or through any other channel, to the next Convention. They are further requested to transmit to the undersigned the names and residence of their respective delegates, so soon as they shall be appointed, so that a list of them may be published, for the information of the Medical public, in the month of October next.

By order of the Medical Convention, assembled at Washington, in January, 1830.

LEWIS CONDICT, M. D., *President.*

Morristown, New Jersey, April 6, 1839.

UNIVERSITY OF PENNSYLVANIA.

MEDICAL DEPARTMENT.

The Lectures commence annually on the first Monday of November, and continue until the ensuing March.

Theory and Practice of Medicine,	By Nathaniel Chapman, M. D.
Institutes of Medicine,	By Samuel Jackson, M. D.
Special and General Anatomy,	By William E. Horner, M. D.
Materia Medica and Pharmacy,	By George B. Wood, M. D.
Chemistry,	By Robert Hare, M. D.
Surgery,	By William Gibson, M. D.
Obstetrics and Diseases of Women and Children,	By Hugh L. Hodge, M. D.

Clinical Medicine and Surgery taught by the prescribing Medical Officers at the Blockley Hospital, under the Guardians of the poor, and at the Pennsylvania Hospital.

W. E. HORNER, M. D.
Dean of the Medical Faculty.

JEFFERSON MEDICAL COLLEGE PHILADELPHIA.

SESSION OF 1839-40.

The regular Lectures will commence on the first Monday of November. The following are the Professors in the order of their appointment.

Jacob Green, M. D.,	*Professor of Chemistry.*
Samuel M'Clellan, M. D.,	*Professor of Midwifery and Diseases of Women and Children.*
Granville S. Pattison, M. D.,	*Professor of Anatomy.*
John Revere, M. D.,	*Professor of the Principles and Practice of Physic.*
Robley Dunglison, M. D.,	*Professor of Institutes of Medicine and Medical Jurisprudence.*
Robert M. Huston, M. D.,	*Professor of Materia Medica and Pharmacy.*
Joseph Pancoast, M. D.,	*Professor of Principles and Practice of Surgery.*

On and after the first of October, the Dissecting rooms will be kept open, and the Professor of Anatomy will give his personal attendance thereto. Lectures will likewise be delivered regularly during the month on the various branches, and opportunities for Clinical Instruction will be afforded at the Philadelphia Hospital under the Professor of Institutes of Medicine and at the Dispensary of the College under the Professors of Physic and of Surgery.

Fee for each Professor for the whole course, $15.

Graduation Fee, $30.

JOHN REVERE, M. D.
Dean of the Faculty.

MEDICAL COLLEGE OF THE STATE OF S. CAROLINA.

The annual course of Lectures of the Medical College of the State of South Carolina, will commence on the second Monday of November.

J. Edwards Holbrook, M. D.,	*Professor of Anatomy.*
John Wagner, M. D.,	*Professor of Surgery.*
S. Henry Dickson, M. D.,	*Professor of Institutes and Practice of Medicine.*
James Moultrie M. D.,	*Professor of Physiology.*
Thomas G. Prioleau, M. D.,	*Professor of Obstetrics.*
C. M. Shepard, M. D.,	*Professor of Chemistry.*
Henry R. Frost, M. D.,	*Professor of Materia Medica.*
E. Geddings, M. D.,	*Professor of Pathological Anatomy and Medical Jurisprudence.*
F. Wurdemann, M. D.,	*Demonstrator of Anatomy.*

JAMES MOULTRIE, M. D.,
Dean of the Faculty.

UNIVERSITY OF THE STATE OF NEW YORK.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

The Lectures in this Institution will commence on the first Monday of November, and continue for four months.

J. Augustine Smith, M. D.,	*Professor of Physiology.*
Joseph M. Smith, M. D.,	*Professor of the Theory and Practice of Physic and Clinical Medicine.*
John B. Beck, M. D.,	*Professor of Materia Medica and Medical Jurisprudence.*
John Torrey, M. D.,	*Professor of Chemistry and Botany.*
Robert Watts, Jr. M. D.,	*Professor of Special and General Anatomy.*
Willard Parker, M. D.,	*Lecturer on Surgery and Surgical and Pathological Anatomy.*
James R. Manley, M. D.,	*Lecturer on Obstetrics and the Diseases of Women and Children.*

The expence of attending a course of Lectures by all the Professors is $108.

J. AUGUSTINE SMITH, M. D., *President.*
NICOLL H. DERING, M. D., *Registrar.*

New York, July 1, 1839.

COLLEGE OF PHYSICIANS AND SURGEONS

OF THE

WESTERN DISTRICT OF THE STATE OF NEW YORK,

(Fairfield Herkimer County.)

The Lectures commence on the 1st Monday of October, and continue sixteen weeks.

Anatomy and Physiology,	By James McNaughton, M. D.
Chemistry and Pharmacy,	By James Hadley, M. D.
Materia Medica and Medical Jurisprudence,	By T. Romeyn Beck, M. D.
Practice of Physic and Obstetrics,	By John Delamater, M. D.
Surgery,	By Frank H. Hamilton, M. D.

Fees for the whole course, $56.

JAMES HADLEY, M. D.
Registrar.

MEDICAL INSTITUTION OF YALE COLLEGE.

The Lectures in this Institution will commence on Thursday, October 3, 1839, and continue sixteen weeks.

Benjamin Silliman, M. D., L. L. D.,	*Professor of Chemistry, Pharmacy, Mineralogy and Geology.*
Eli Ives, M. D.,	*Professor of the Theory and Practice of Physic.*
William Tully, M. D.,	*Professor of Materia Medica and Therapeutics.*
Jonathan Knight, M. D.,	*Professor of the Principles and Practice of Surgery.*
Timothy P. Beers, M. D.,	*Professor of Obstetrics.*
Charles Hooker, M. D.,	*Professor of Anatomy and Physiology.*

The Fees, which are required in advance, are $12,50, for each course, except that on Obstetrics, which is $6. The Matriculation fee is $5, and the contingent bill for the course on Chemistry $2,50. The expense of a full course therefore is $76. The graduation fee is $15.

CHARLES HOOKER, M. D.
Secretary.

CINCINNATI COLLEGE.

MEDICAL DEPARTMENT.

The Lectures commence annually on the last Monday of October, and continue until the commencement, or time of conferring the degrees.

Anatomy Special and Surgical,	By J. N. M'Dowell, M. D.
General and Pathological Anatomy, and Physiology,	By S. D. Gross, M. D.
Surgery,	By Willard Parker, M. D.
Obstetrics and Diseases of Women and Children,	By L. C. Rives, M. D.
Chemistry and Medical Jurisprudence,	By James B Rogers, M. D.
Materia Medica and Pharmacy,	By John P. Harrison, M. D.
Theory and Practice of Medicine,	By Daniel Drake, M. D.
Demonstrator of Anatomy,	By Carey A. Trimble, M. D.

By a Recent law of the Ohio Legislature Students of Medicine of this School are admitted to attend the wards of the Commercial Hospital and Lunatic Asylum in this city upon the same terms as those of the Ohio Medical College.

JOHN P. HARRISON, M. D.
Dean of Medical Faculty.

ANNUAL CIRCULAR

OF THE

MEDICAL COLLEGE OF LOUISIANA,

FOR 1839–40.

FACULTY.

JOHN HARRISON, M. D, *Professor of Physiology and Pathology.*
EDWARD H. BARTON, M. D, *Professor of Materia Medica, Therapeutics and Hygeine.*
JAMES JONES, M. D., *Professor of the Theory and Practice of Medicine.*
J. L. RIDDELL, M. D., *Professor of Chemistry and Pharmacy.*
WARREN STONE, M. D., *Professor of Surgery.*
G. A. NOTT, M. D., *Professor of Anatomy.*
A. H. CENAS, M. D., *Professor of Obstetrics and the Diseases of Women and Children.*
G. W. MORGAN, M. D., *Demonstrator of Anatomy.*

The Session will open at the Charity Hospital, on Common Street, on the first Monday in December, and close on the fourth Saturday in March. The commencement for conferring Degrees will be held on the Wednesday following the close of the Lectures.

E. H. BARTON, M. D., *Dean.*

New Orleans, May, 1839.

At the Annual meeting of the Physico-Medical Society of New Orleans, the following Members were duly elected officers for the year, viz:

G. H. BARTON, M. D.,	*President.*
G. W. CAMPBELL, M. D.,	*Vice-Presidents.*
J. M. W. PICTON, M. D.,	*Vice-Presidents.*
J. S. SNOWDEN, M. D.,	*Corresponding Secretary.*
G. BETTEUR, M. D.,	*Recording Secretary.*
T. O. MENX, M. D.,	*Treasurer.*
T. HUNT, M. D.,	*Curator.*

ALBANY MEDICAL COLLEGE.

THIS institution received its charter from the legislature of the state during the past winter, and commenced operations with a class of sixty five students; thirteen of whom received the degree of DOCTOR IN MEDICINE at the close of the session.

The College Edifice and its accommodations: the Museum, Theatre, Dissecting Rooms, and Laboratory, are all on a scale of magnitude and excellence, equal it is believed, to any similar institution in the country.

Choice and extensive collections of Anatomical Specimens and morbid preparations; with cabinets of Materia Medica, Botany, Mineralogy, Geology and Zoology, together with Casts, Plates, Drawings, Models, Instruments and apparatus for illustrating the different departments of study, have all been provided and arranged in the Museum of the College, which will be open for the inspection of students during the lecture term.

The ensuing Session will commence on Tuesday, October 1st. 1839, and continue sixteen weeks.

The faculty consists of the following gentlemen.

ALDEN MARCH, M. D, PRESIDENT, and *Professor of Surgery.*
EBENEZER EMMONS, M. D., *Professor of Chemistry.*
DAVID M. REESE, M. D., *Professor of the Theory and Practice of Medicine.*
JAMES H. ARMSBY, M. D., *Professor of Anatomy.*
DAVID M. M'LACHLAN, M. D, *Professor of Materia Medica and Therapeutics.*
GUNNING S. BEDFORD, M. D, *Professor of Obstetrics.*
THOMAS HUN, M. D., *Professor of the Institutes of Medicine.*
AMOS DEAN ESQ., *Professor of Medical Jurisprudence.*

The fee for all the courses is $70. Matriculation fee $5. Graduation fee $20. Price of boarding from $2,50 to $3.50 per week.

For further particulars inquire of either of the Faculty, or of

JAMES H. ARMSBY, M. D,
Registrar.

Albany, July, 1839.

M'MUNN'S ELIXIR OF OPIUM.

CIRCULAR TO PHYSICIANS.

New York, March 1, 1839.

Dear Sir:—I beg leave to solicit your favour and patronage to my ELIXIR OF OPIUM, a new chemical preparation, which I have invented, containing all the valuable medicinal principles of Opium, to the exclusion of those which are deleterious and useless, and which, I feel assured, will be found worthy of your kind attention.

It is a well ascertained fact, that Opium, in its natural state, is not a simple substance, but is found, by chemical analysis, to contain the Meconate of Morphia, Codein, and Narcein, which are valuable elements; and Narcotine, Gum, Resin, Feculent Matter, &c., which are noxious principles; and full proportions of the greatest number of which are contained in Laudanum, Paregoric, Black Drop, Denarcotized Laudanum, and such other opiate preparations of this class hitherto made, and to which are justly attributed those disagreeable effects upon the stomach and nervous system, which so frequently follow their operation and limit their usefulness.

This ELIXIR OF OPIUM retains only the Morphia, Codein, and Narcein, and these in combination with its native Meconic Acid; in consequence of this, and the undecomposed combination of all these, its remaining principles, it produces the characteristic effects of the Opium more distinctly than any of the artificial compounds of Morphia; fully confirming the fact, that the more undecomposed and unchanged we keep the native elements of substances in pharmaceutic preparations, the more characteristic will be their therapeutic effects upon the animal system;—and intimately connected with this fact, is the circumstance of the absolute impossibility of restoring the original valuable qualities of vegetable substances, to the result of the artificial combination of their decomposed proximate principles.

And thus it is, after the native Meconate of Morphine has been decomposed by chemical process, that its natural proportions, so necessary and essential to the preservation of the identity and characteristic virtues of the native drug, are never maintained in an artificial combination. Its organic nature is so destroyed, and its strength so materially impaired by insolubility, that it is comparatively inert and useless.

It also demonstrates another fact, the importance of which will be obvious to all medical chemists, namely, the high superiority of the native acid of this preparation, to the artificial ones of those forms of Morphia hitherto used; for it is well known that the nature and power of Saline compounds materially depend upon their acidifying principle; as the difference between the Arseniates of Potass and Soda, and the Sulphates, Nitrates and Muriates, of the same alkalies will exemplify.

Although the native Meconic Acid in an isolated state, may not appear to possess any medicinal activity or to exert any action upon the animal system, yet when combined, in a natural state, with Morphine, Codein, and Narcein, as in the Elixir of Opium, it acquires activity from them, and imparts virtue and power to them, of which neither the Acetic, Sulphuric, Muriatic or any other Artificial Acid is capable, and their native combination and compound effects possess more proportionate energy, than either can individually, or with any artificial principle substituted for them; the difference in the nature and power of the artificial Salts of Morphine, shows a decided superiority of some of their Acids to others, namely, of the Acetic and Sulphuric to the Muriatic, Nitric, Tartaric and Carbonic, and of the greater solubility of their Salts, and consequently superior power and preference; and those of the others being less soluble, are proportionably less active. It is impossible for the Morphine alone, and that in artificial combination, to fully represent and maintain in medical treatment all the physiological influences and medicinal virtues of so triumphant a remedy as Opium is, when so many of its other valuable properties are excluded.

That Codein and Narcein possess the characteristic and many of the essential virtues of the Opium, and that when associated in native combination with the Meconic Acid and Morphine, they confer much additional strength and impulse to a preparation, as they do in the Elixir of Opium, is undeniable.

The great discrepancy in the comparative strength between Morphine and the native drug, independent of insolubility, principally depends upon the exclusion of those principles, and accounts for the circumstance, why "one grain of Morphine produces no more effect than two grains of Turkey Opium, which do not contain more than a sixteenth part of the Alkali."

It possesses, also, a superior advantage to the Solutions of Morphia, (in addition to that of containing the Codein, Narcein and Meconic Acid, in a natural state of combination,) in its being of uniform strength, and not liable to decomposition and deterioration from those constant changes which the variable temperature, to which they are exposed, occasions; and thus is obviated a serious objection, which has prevented their being used with precision and safety.

The applicability of so highly improved a preparation as this ELIXIR OF OPIUM, to a wide range of human diseases, scarcely needs an illustration, since Opium itself, in some form or other, with all its objectionable elements, is considered almost indispensable in cases of constant occurrence.

To speak summarily, the ELIXIR OF OPIUM may be adopted in all cases in which either Opium or its preparations are administered, with the certainty of obtaining all their sedative, anodyne, and antispasmodic effects, without being followed by the disagreeable consequences of headache, nausea, vomiting, *constipation*, tremors, and a train of other unhappy symptoms, which are often as distressing as those which it was applied to remove.

Nor is the prevention of these consecutive ill effects, the only important desideratum which recommends this valuable discovery to favourable notice. Its almost universal applicability in the treatment of the great number of diseases, in which other opiates are contra-indicated and inadmissible, in consequence of their stimulating and constipating effects, at once entitles it to universal adoption.

It possesses yet another important advantage, which is of paramount consideration in the treatment of some of the most violent and dangerous spasmodic diseases, such as Tetanus, Epilepsy, Hysteria, Tic douloureux, Convulsions in Hydrophobia, &c. &c., which is that the quantity necessary to overcome and control diseased action in those dreadful maladies, is not limited by the deleterious influence of those objectionable principles, but can be given in large quantities with safety, inasmuch as their proportions in Opium and its several preparations containing them, are so great, that by the time a sufficient quantity is taken, for the anodyne and antispasmodic properties to allay and overpower the pain and spasmodic action in some of their most violent attacks, the poisonous influence of the objectionable elements, will preponderate and produce narcotism, stupor, and apoplectic death; and the patient dies the victim of the poisonous effects of the intended remedy, before the valuable properties can give the desired relief.

Having used this preparation for some time in an extensive medical practice, and being fully satisfied of its value, I therefore take the liberty to submit it to the members of the Medical Profession, with full confidence that it will obtain the approbation of their judgment, and be eminently successful in their enlightened practice.

Your most obedient servant,

JOHN B. M'MUNN.

N. B. Full directions accompany each vial, and the signature of my name, in full, on the outside label.

TESTIMONIALS.

DR. JOHN B. M'MUNN having made known to me the process by which he prepares his "ELIXIR OF OPIUM," and wishing me to state my opinion concerning it, I therefore say, that the process is *in accordance with well known chemical laws*, and that the preparation must contain *all the valuable principles of Opium, without those which are considered as deleterious and useless.*

New York, December 29, 1836. J. R. CHILTON, M. D.
Operative Chemist, &c.

DR. J. B. M'MUNN.

DEAR SIR:—I have made repeated trials of your "ELIXIR OF OPIUM" in the City and Marine Hospitals, and find it to possess the anodyne and sedative powers of the ordinary preparations of Opium, without producing the *excitement*, headache, nausea, and *constipation*, which in many cases render those preparations objectionable.

Its effects are more *permanent* and *uniform* than those of Morphia.

Yours, &c.

C. L. MITCHELL, M. D.
Resident Physician, New York Hospital.

New York, February 8th, 1837.

Bellevue, New York, February 19, 1839.

THIS IS TO CERTIFYY, that Dr. J. B. M'Munn's ELIXIR OF OPIUM has been used in several cases, at the Bellevue Hospital, with the most satisfactory effects, when the usual preparations of Opium would have proved injurious.

The undersigned are fully convinced, that it possesses the sedative properties of the latter, without producing *constipation of the bowels*, or any unpleasant symptoms.

HENRY VAN HOEVENBERGH, Resident Physician.
GEORGE F. ALLEN, Assistant Physician.
} *Bellevue Hospital.*

From DR. JAMES HERON, *President of the Medical Society of Orange County, New York.*

THIS CERTIFIES, that I have used of DR. M'MUNN'S ELIXIR OF OPIUM, and do find it to be preferable to Opium and its tinctures, in that it is not followed by the pain in the head, nausea, dry and bitter mouth, and *constipation*, so generally consequent upon the use of that drug. And I do believe his preparation, at least, equally beneficial with the other combinations of Morphia.

JAMES HERON, Physician and Surgeon.

Warwick, October 17*th*, 1836.

The following from Ansel W. Ives, A. M. speaks volumes.*

IMPORTANT COMMUNICATION.—About ten months ago I was attacked with a very painful species of Neuralgia, [*Tic douloureux*,] affecting all the nerves of one of my hips and legs, which excepting occasional short intervals, has continued with unabated severity to the present time. As no remedy has ever seemed to produce the least permanent effect in the progress of the disease, I have been obliged to rely entirely on Opium to mitigate intolerable pain. I began by using the Black Drop, and afterwards the different preparations of Morphine, both by taking them into the stomach and by applying them to a blistered surface externally. By these preparations my digestive functions were almost entirely suspended, and my whole nervous system so disturbed, that my general health was suffering severely from the use of them. It was but a short time before I was taken ill, that Dr. M'Munn had left with me a specimen of his Elixir of Opium, with the request that I would make a trial of it in my practice. I had not used it enough, however, before my sickness, to form any opinion of its peculiar virtues, and I confess I was not predisposed to believe that it possessed any; but one of my medical attendants suggested the propriety of my using it, as all other preparations of Opium affected me so unfavorably. From that time to the present, a period of about eight months, I have taken but little less than 100 ounces of this medicine. *As I can therefore speak with great confidence* as to the effect of Dr. M'Munn's Elixir in my own case, *it is not less an act of justice to him, than a duty to the profession, and to the cause of humanity*, that I give a brief statement of its peculiar effects, and of its superiority in my own case over every other preparation of Opium.

In the first place, *it has never impaired my appetite, nor weakened the powers of digestion, on the contrary*, when taken in moderate quantities, that is, in doses from half a drachm to a drachm three or four times in twenty-four hours, *it has seemed to*

* Of Dr. Ives, it is sufficient to say, that he was an eminent physician in the city of New York, and is well known to the medical profession generally as a scientific medical chemist, whose name stands recorded in connection with *Lupuline* (the active principle of the Hop,) of which he was the discoverer. Medical science is also indebted to him for testing the qualities of other valuable medicines, and for their more general introduction into practice. And it may in fact, be said, that a more capable person could not have been selected to test the qualities of the Elixir of Opium than him, nor a more befitting disease for that purpose, than the one with which he was so sorely afflicted.

increase the digestive functions; and even though I have taken during the last fifteen days as many ounces of the Elixir, my appetite is still good. Secondly, it does not produce relaxation of the skin, and consequent perspiration as other preparations of Opium do. Thirdly, it uniformly increases the secretion of urine. Fourthly, unless taken in uncommonly large doses, *it does not produce constipation of the bowels.* Fifthly, although it has been equally efficient in relieving pain, *it has in no instance caused headache, or sickness* of stomach, or any of those symptoms of nervous irritability of the system which usually ensue from other preparations of Opium, *after their primary influence has subsided.* Without going into detail, such are the peculiarities of the "Modus Operandi" of Dr. M'Munn's Elixir in my own case. How far its action by future experience may be found to correspond with this on other constitutions I pretend not to say; but I think I shall be sanctioned by my medical attendants in adding, that *my life has already been prolonged by the peculiar benefits derived from this medicine.*

A. W. IVES, M. D.

New York, Dec. 14, 1837.

Having witnessed the effects of Dr. J. B. M'Munn's Elixir of Opium, we are of opinion that it is a valuable preparation, and recommend it to the patronage of the profession.

F. U. JOHNSTON, M. D.
President of the Medical Society of New York, and Physician to the City and Marine Hospital.

JOHN W. FRANCIS, M. D.
Late Prof. of Midwifery in the College of Phys. and Surgeons, N. Y.

JOHN C. CHEESEMAN, M. D.
Surgeon to the New York City Hospital.

RICHARD K. HOFFMAN, M. D.
Surgeon to the City Hospital, N. Y. and late Surgeon in the U. S. N.

JAMES WEBSTER, M. D.
Prof. of Anat. and Physiology in the Geneva Medical College, N. Y.

New York, Feb. 18, 1837.

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